Cypress Style Guide

Writing Well at Cypress

Cypress Style Guide

Contents

General Notes:

1. In general, always expand all acronyms, abbreviations, and initialisms. In contextual acronyms such as parameters, expand on first mention. Examples: Acronyms related to parameters: VBUS, VBAT, VUSB, CMOD.
2. Use relevant examples in the style guide—use technical examples that are relevant to Cypress terms.
3.

About This Guide

The Cypress Style Guide describes editorial guidelines for Cypress publications, technical documentation, and reference information.

Writers, editors, and developers use this document as a guide for writing style, usage, and Cypress product terminology. Writers and editors need to thoroughly review the guide to become familiar with the range of issues involved in creating high-quality, readable, and consistent documentation. Cypress developers need to follow this guide when writing any text for customers, as well as when writing documentation for internal users. In general, follow these basic writing principles:

- Use active voice. Use passive voice sparingly and only where appropriate.
- Shorter is better. Break up long or compound sentences, and limit sentence length to 25 words or fewer.
- Simple is better. Remove unnecessary words and punctuation, avoid jargon, and use specific technical terms appropriately.
- Specific is better. Use specific facts and data, rather than generalities or unsupported qualitative phrases, to improve understanding.
- Do not use gender-specific pronouns.

If you do not find what you are seeking, contact the Style Council.

Standard Editorial Resources

In general, follow the style and usage rules in:

- *The American Heritage Dictionary*
- *The Chicago Manual of Style*
- *Words into Type*
- *The Global English Style Guide*

In cases where reference sources conflict with each other, follow:

- *The Chicago Manual of Style* for questions of style and usage.
- *The American Heritage Dictionary* for questions of spelling.

Frequently Used Sections

Acronyms and Abbreviations

Spell out an acronym the first time you use it and insert it in parentheses after the full name. Do not capitalize the spelled-out version unless it is a proper noun. You can use the acronym by itself thereafter, though you may want to spell it out again in a section that the readers may be using for reference only. There are some acronyms that are so commonly understood that they do not need to be defined--for example, CPU for central processing unit. When using an acronym in a heading, spell it out in the first paragraph below the heading. Never use periods in an acronym unless they are part of a brand name.

If you think the target audience is unfamiliar with an abbreviation, specify it when you first use it.

Some acronyms represent parameters such as V_{DD} (drain voltage) or t_{RISE} (rise time). In these cases, the variable (voltage = V) is followed by a text string defining the actual parameter (DD = drain voltage). This text must always be all uppercase and subscripted (V_{DD}). However, usage may need to align with industry specifications (USB3, QDR-III for example).

Note Depending on product uniqueness, some acronyms may be used differently.

For a list of commonly used units of measure, see Units of Measure.

Common Acronyms and Abbreviations and When to Spell Them Out

Some acronyms are so commonly used that you do not need to spell them out. This table list acronyms with guidance on whether to spell them out on first reference.

Acronym	Definition	Spell Out on First Ref? (Yes/No)
µPGA	micro pin grid array	Yes
σ	sigma: one standard variation	No
ABUS	analog output bus	Yes
AC	alternating current	No
ACA	accessory charger adapter	Yes
ACK	Acknowledge	No
ADC	analog-to-digital converter	No
ADI	array digital interconnect	Yes
AEC	automatic exposure control	No
AFE	analog front end	Yes
AG	analog global	Yes
AHB	advanced high-performance bus	Yes
ALU	arithmetic logic unit	Yes
AMBA	advanced microcontroller bus architecture	Yes
AMUX	analog multiplexer	No
ANSI	American National Standards Institute	No

Acronym	Definition	Spell Out on First Ref? (Yes/No)
AOQ	average outgoing quality	Yes
APA	all points addressable	Yes
API	application programming interface	No
APLL	analog phase-locked loop	Yes
AQL	allowable quality level	Yes
ASIC	application-specific integrated circuit	No
BC	broadcast clock	Yes
BCD	binary coded decimal	No
BCN	bid control number	Yes
BER	bit error rate	No
BGA	ball grid array	No
BIFC	bit implemented functioning connection	Yes
BINC	bit implemented not connected	Yes
BIST	built-in self-test	No
BJT	bipolar junction transistor	Yes
BOM	bill of materials	No
BOT	bulk-only transport (USB)	Yes
BR	bit rate	Yes
BRA	bus request acknowledge	Yes
BROS (internal use only)	Business Requirements Objective Spec	No
BRQ	bus request	Yes
BU	business unit	Yes
BUM	business unit manager	Yes
CAD	computer-aided design	No
CAM	content addressable memory or computer-aided manufacturing	Yes
CAN	controller area network	No
CBUS	comparator bus	Yes
CCCS	current-controlled current source	Yes
CCII	current conveyor, type-II	Yes
CDC	Communication Device Class	Yes
CDM	charged device model	No
CD-ROM	compact-disc read-only memory	No
CDS	correlated double sampling	Yes
CFA	color filter array	Yes
CFR	Code of Federal Regulations	No
CG	customer generic part prefix	Yes
CHS	class hot (high temperature) screening	Yes
CI	carry in	Yes
CIO	common input/output	Yes
CISC	complex instruction set computer	Yes
CLI	command-line interface	Yes

Acronym	Definition	Spell Out on First Ref? (Yes/No)
CLS	class low-temperature screening	Yes
CML	current mode logic	Yes
CMOS	complementary metal oxide semiconductor	No
CMP	compare (only in code)	Yes
CMRR	common-mode rejection ratio	Yes
CMY	cyan magenta yellow	Yes
CO	carry out	Yes
COB	chip on board	No
COF	chip on flex	Yes
COG	chip on glass	Yes
COL	chip on lead	Yes
COM	Component Object Model	No
CPHA	clock phase	Yes
CPOL	clock polarity	Yes
CPU	central processing unit	No
CRC	cyclic redundancy check	No
CS	customer-specific part prefix	No
CSA	current sense amplifier	Yes
CSD	CapSense Sigma Delta	Yes
CSI	customer source inspection	Yes
CSP (also see WLCSP)	Chip-scale package	No
CSX	CapSense Transmit/Receive. See also TXRXi	Yes
CT	continuous time	Yes
CVCF	charge-to-voltage conversion factor	Yes
CY	Cypress standard part prefix	No
DAC	digital-to-analog converter	No
DALI	digital addressable lighting interface	Yes
DAP	debug access port	Yes
dBm	decibel-milliwatts	No
DC	direct current	No
DCXO	digitally compensated crystal oscillator	Yes
DDK	design development kit	Yes
DDR	double data rate	No
DevMaster	Device master – contains all device specs	No
DFB	digital filter block	No
DFS	distance, finger separation	Yes
DFT	design for test	Yes
DI	digital or data input	Yes
DMA	direct memory access	No
DMAC	direct memory access controller	Yes

Acronym	Definition	Spell Out on First Ref? (Yes/No)
DMIPS	Dhrystone million instructions per second	No
DNL	differential nonlinearity	No
DNU	do not use	Yes
DO	digital or data output	Yes
DOS	disk operating system	No
DRAM	dynamic random-access memory	No
DR-QFN	dual-row quad-flat no-lead package	Yes
DS	double sampling	Yes
DSD	Dual Solid Diamond	Yes
DSI	digital signal interconnect	Yes
DSL	digital subscriber line	No
DSNU	dark signal nonuniformity	Yes
DSP	digital signal processing	No
DSSS	direct-sequence spread spectrum	No
DUT	device under test	No
DVD	digital video disc or digital versatile disc	No
DVK	development kit	No
ECC	error correcting code	No
ECL	emitter-coupled logic	Yes
ECO	external crystal oscillator	Yes
EEPROM	electrically erasable programmable read-only memory	No
EIA	Electronic Industries Alliance	Yes
EMC	electromagnetic compatibility	No
EMI	electromagnetic interference	No
ENOB	effective number of bits	No
EOC	end of conversion	Yes
EOT	end of transfer	Yes
EPLD	erasable programmable logic device	No
EPS	Encapsulated postscript or earnings per share	Yes
EROS (internal use only)	External Requirements Objective Spec	No
ERP	effective radiated power	Yes
ES	engineering samples	Yes
ESD	electrostatic discharge	No
EU	European Union, formerly the European Community	No
EVK	evaluation kit	No
FA	failure analysis	No
FAQ	frequently asked questions	No
FAR	failure-analysis request	Yes
FBGA	fine-pitch ball grid array	No
FBK	feedback	Yes

Acronym	Definition	Spell Out on First Ref? (Yes/No)
FCBGA	flip chip ball grid array	Yes
FCOL	flip chip on lead	Yes
FDC	fully differential converter	Yes
FEC	forward error correction	No
FER	frame error rate	Yes
FET	field-effect transistor	No
FF	fill factor	Yes
FFT	fast Fourier transform	Yes
FG	finished goods	Yes
FIB	focused ion beam	Yes
FIFO	first in, first out	No
FIR	finite impulse response	Yes
FIT	failure in time	Yes
FM	frequency modulation	No
FMEA	failure mode and effects analysis	No
FOT	frame overhead time	Yes
FPC	flexible printed circuit	No
FPN	fixed pattern noise	Yes
FQA	final quality assurance	Yes
FPS	frames per second	No
FSK	frequency shifting key	Yes
FSR	full-scale range	Yes
FTP	file transfer protocol	No
GATT	generic attribute profile	Yes
GbE	Gigabit Ethernet	Yes
GBW	gain bandwidth	Yes
GDI	global digital interconnect	Yes
GFSK	Gaussian frequency-shift keying	No
GIE	global interrupt enable	Yes
GIF	graphic interchange format	No
GPIF	General Programmable Interface (CY trademark)	Yes
GPIO	general-purpose I/O	No
GPS	global positioning system	No
GUI	graphical user interface	No
HAL	hardware abstraction layer	Yes
HBM	human body model	No
HCD	host controller driver	Yes
HCSL	host clock signal level	Yes
HDK	hardware development kit or host development kit	Yes
HD	high definition	No
HDL	hardware description language	No

Acronym	Definition	Spell Out on First Ref? (Yes/No)
HID	human-interface device	No
HMI	human-machine interface	Yes
HMUX	horizontal multiplexer	Yes
HNP	host negotiation protocol	Yes
HPI	host port interface	Yes
HS-OTG	High-Speed On-The-Go	No
HSS	high-speed serial	Yes
HSTL	high-speed transceiver logic	No
HTML	hypertext markup language	No
HTTP	hypertext transfer protocol	No
I^2C	inter-integrated circuit	No
IC	integrated circuit	No
ICE	in-circuit emulator	Yes
ID	identification	No
IDAC	current output digital-to-analog converter	No
IDE	integrated design environment (CY only) and integrated device electronics	Yes
IEEE	Institute of Electrical and Electronics Engineers	No
IIR	infinite impulse response	Yes
ILO	internal low-speed oscillator	Yes
IMO	internal main oscillator	Yes
INL	integral nonlinearity	No
I/O	input/output	No
IOR	I/O read	Yes
IOW	I/O write	Yes
IP	intellectual property or Internet Protocol	Yes
IPOR	imprecise power-on reset	No
IRA	interrupt request acknowledge	Yes
IrDA	Infrared Data Association	Yes
IRES	internal reset	Yes
IROS (internal use only)	Internal Requirements Objective Specification	No
IRQ	interrupt request	No
ISDN	integrated services digital network	Yes
ISM	industrial, scientific, and medical band	No
ISR	interrupt service routine	No
ISSP	in-system serial programming	Yes
IT	information technology	No
ITO	indium tin oxide	Yes
ITS	Intelligent Traffic Systems	Yes
ITU	International Telecommunications Union	No
IVR	interrupt vector read	Yes

Acronym	Definition	Spell Out on First Ref? (Yes/No)
JEDEC	Joint Electron Device Engineering Council	No
JIT	just in time	No
JPEG	Joint Photographic Experts Group	No
JTAG	Joint Test Action Group	No
KGD	known good die	Yes
LCC	leadless chip carrier	No
LCD	liquid crystal display	No
LCP	link-control protocol	Yes
LDO	low drop out (voltage regulator)	No
LED	light-emitting diode	No
LFSR	linear-feedback shift register	Yes
LIFO	last in, first out	No
LKM	loadable kernel module	Yes
LMBU	logical multi-bit upset	Yes
LPD	lot tolerance parts defective	Yes
LPF	low-pass filter	Yes
LPLVD	low-power low-voltage detect	Yes
LRb	last received bit	Yes
LSb	least significant bit	No
LSB	least significant byte	No
LSBU	logical single-bit upset	Yes
LSO	low-speed oscillator	Yes
LUT	lookup table	No
LVCMOS	low-voltage complementary metal oxide semiconductor	No
LVD	low-voltage detect	No
LVDS	low-voltage differential signaling	No
LVPECL	low-voltage positive emitter-coupled logic	No
LVTTL	low-voltage transistor-transistor logic	No
MBS	mixed boundary scan	Yes
MC	mutual capacitance	Yes
MC-SE	mutual capacitance – single electrode	Yes
MCU	microcontroller unit	No
MFi	Made for iPod	Yes
MH3	Manhattan3 (CY internal)	Yes
MIPS	million instructions per second	No
MISO	master in, slave out	Yes
MITM	man-in-the-middle	Yes
MLF	micro lead frame (see also QFN)	Yes
MMIO	memory mapped I/O	Yes
MOS	metal oxide semiconductor	No

Acronym	Definition	Spell Out on First Ref? (Yes/No)
MOSFET	metal–oxide–semiconductor field-effect transistor	No
MOSI	master out, slave in or Microprocessor Operating Systems Interface, IEEE Standard 855-1990	Yes
MoU	memorandum of understanding	No
MPEG-1, MPEG-2, MPEG-3, MPEG-4	Motion Picture Experts Group video and audio file formats	No
MPU	memory protection unit or microprocessor unit	Yes
MSb	most significant bit	No
MSB	most significant byte	No
MSC	mass storage class	Yes
MSC-SE	mutual self-capacitance – single electrode	Yes
MS-DOS	Microsoft DOS; see also *DOS*	No
MSP	main stack pointer	Yes
MSPS	mega samples per second	No
MTF	modulation transfer function	Yes
MTS	manufacturing test system	Yes
MUX	multiplexer	No
NAK	negative acknowledge	No
NC	no connection	No
NDR	nondestructive readout	Yes
NFC	near field communications	Yes
NFR	noise-free resolution	Yes
NIR	near infrared	Yes
NMI	nonmaskable interrupt	Yes
NPP (internal use only)	New Product Plan	No
NRZ	non return to zero	No
NSE	network search engine	No
NVIC	nested vectored interrupt controller	Yes
nvSRAM	nonvolatile static random-access memory	No
OCA	optically clear adhesive	Yes
OCD	on-chip debug	Yes
ODT	on-die termination	Yes
OEM	original equipment manufacturer	No
OLED	organic light-emitting diode	No
OS	operating system	No
OSR	over sample ratio	Yes
OTA	operational transconductance amplifier	Yes
OTP	one time programmable	No
OV	overvoltage	Yes
PC	program counter or personal computer	Yes/No

Acronym	Definition	Spell Out on First Ref? (Yes/No)
PCB	printed circuit board	No
PCH	program counter high	Yes
PCI	peripheral component interconnect	No
PCIe	peripheral component interconnect express	No
PCIOS (internal use only)	Platform Chip Integration Objective Spec	No
PCL	program counter low	Yes
PD	power down	Yes
PDF	portable document format	No
PET	polyethylene terephthalate	Yes
PGA	programmable gain amplifier or pin grid array	Yes
PGOOD	power good	Yes
PHY	physical layer	No
PICU	port interrupt control unit	Yes
PIFA	Printed Inverted-F Antenna	Yes
PIN	personal identification number	No
PLA	programmable logic array	No
PLC	powerline communication	Yes
PLD	programmable logic device	No
PLL	phase-locked loop	No
PLS	parasitic light sensitivity	Yes
PM	power management or product manager or project manager or preventive maintenance	Yes
PMBus	Power Management Bus	No
PMIC	power management IC	Yes
PMP	personal media player	No
PND	personal navigation device	No
POL	point-of-load	Yes
POP3	Post Office Protocol, version 3	No
POR	power-on reset	Yes
POS	point of sale	No
pp	peak to peak	Yes
ppm	parts per million	No
PPOR	precision power-on reset	Yes
PRBS	pseudo random binary sequence	Yes
PRNU	pixel random nonuniformity	Yes
PROM	programmable read-only memory	No
PRS	pseudo random sequence	Yes
PSI	programmable serial interface	Yes
PSM	protocol state machine	Yes
PSN	photon shot noise	Yes

Acronym	Definition	Spell Out on First Ref? (Yes/No)
PSoC	Programmable System-on-Chip	No
PSP	process stack pointer	Yes
PSR	program status registers	Yes
PSRR	power supply rejection ratio	Yes
PSSDC	power system sleep duty cycle	Yes
PTG	programmable timing generators	Yes
PTM	parallel test mode	Yes
PVC	polyvinyl chloride	No
PWB	printed wiring board	No
PWM	pulse-width modulator	No
QA	quality assurance	Yes
QC	quantum conversion	Yes
QDR	quad data rate	No
QE	quantum efficiency	Yes
QFN	quad flat no-lead (package)	No
QSPI	queued serial peripheral interface	Yes
QVLD	valid output indicator	Yes
R&D	research and development	No
RAID	redundant array of independent disks	No
RAM	random-access memory	No
RAS	row address strobe	No
RDI	row digital interconnect	Yes
RDK	reference design kit	Yes
REL	reliability	No
RETI	return from interrupt	Yes
RF	radio frequency	No
RFID	radio frequency identification	No
RGB	red green blue	No
RI	row input	Yes
RISC	reduced-instruction-set computer	No
RMA	return material authorization	No
RMS	root mean square (σ)	No
RO	row output	Yes
RoHS	Restriction of Hazardous Substances	No
ROI	region of interest or return on investment	Yes
ROM	read-only memory	No
ROOS	run out of SRAM	Yes
ROT	row overhead time	Yes
RPC	remote procedure call	Yes
RSS	really simple syndication	No
RSSI	received signal strength indication	Yes
RTC	real-time clock	Yes

Acronym	Definition	Spell Out on First Ref? (Yes/No)
RTD	resistance temperature detector	No
RTOS	real-time operating system	No
RTR	random transaction rate	Yes
RW	read/write	No
RWI	read and write inhibited	Yes
SA	Strong ARM processor	Yes
SAM	served available market	Yes
SAN	storage area network	Yes
SAR	successive approximation register (ADC)	Yes
SAS (internal use only)	SOC Architecture Spec	No
SBC	single-board computer	No
SC	switched capacitor	Yes
SCLK	serial interface clock	No
SC-SE	self-capacitance – single electrode	Yes
SCSI	small computer serial interface	No
SDAT	serial interface data	No
SDK	software development kit	No
SDR	single data rate	No
SEL	single-event latch up	No
SER	soft error rate	Yes
SERDES	serializer deserializer	No
SEU	single event upset	Yes
S/H	sample and hold	Yes
SIE	serial interface engine	Yes
SIMM	single, in-line memory module	No
SINAD	signal to noise and distortion	Yes
SIO	separate input/output and special input/output	Yes
SLIMO	slow internal main oscillator	Yes
SLM	linear slider module	Yes
SMBus	System Management Bus	No
SMC	system management control	Yes
SMD	surface mount device	No
SMT	surface mount technology	No
SMP	switch mode pump	Yes
SNR	signal-to-noise ratio	No
SOC	system on chip	No
Soc	start of conversion	Yes
SOF	start of frame	No
SOIC	small outline integrated circuit	No
SOL	sensor-on-lens	Yes
SOM	share of market	Yes
SONOS	silicon-oxide-nitride-oxide semiconductor	Yes

Acronym	Definition	Spell Out on First Ref? (Yes/No)
SP	stack pointer	Yes
SPD	sequential phase detector	Yes
SPI	Serial Peripheral Interface	No
SPIM	Serial Peripheral Interface master	No
SPIS	Serial Peripheral Interface slave	No
SQL	Structured Query Language	No
SRAM	static random-access memory	No
SRM	radial slider module	Yes
SROM	supervisory read-only memory	No
SRP	session request protocol	Yes
SSADC	single-slope analog-to-digital converter	Yes
SSC	supervisory system call	Yes
SSOP	shrink small outline package	No
SSTL	stub series terminated logic	No
SWD	serial wire debug	No
SWV	single wire viewer	No
TAM	total available market	Yes
TAP	test access port	No
TB	transaction buffer	Yes
TC	terminal count	Yes
TCK	test clock	No
TCP	transmission control protocol	No
TCPWM	timer/counter pulse-width modulation	Yes
TD	transaction descriptors	No
TDI	test data in	No
TDO	test data out	No
TIA	transimpedance amplifier or Telecommunications Industry Association	No
TIFF	tagged image-file format	No
TMS	test mode select	No
TRM	Technical Reference Manual	No
TS	transaction structure	Yes
TSC	touchscreen controller	Yes
TSOP	thin small outline package	No
TSSOP	thin shrink small outline package	No
TTHE	TrueTouch® Host Emulator	Yes
TTL	transistor-transistor logic	No
TTDA	TrueTouch® Driver for Android™	Yes
TTSP	TrueTouch® Standard Products (CY only)	Yes
TXRXi	charge-based transmit/receive type of capacitive sensing	Yes

Acronym	Definition	Spell Out on First Ref? (Yes/No)
UART	universal asynchronous receiver transmitter	No
UAS	USB attached storage	Yes
UCS	universal charging solution	Yes
UDB	universal digital block	Yes
UHD	ultra-high definition	Yes
UM	user module	Yes
URL	uniform resource locator	No
U.S. (*n*, *adj*)	United States	No
USB	Universal Serial Bus	No
USBD	USB driver	Yes
UUID	universally unique identifier	Yes
UV	undervoltage	Yes
VCO	voltage-controlled oscillator	No
VCSEL	vertical cavity surface-emitting laser	Yes
VCXO	voltage-controlled crystal oscillator	Yes
VDAC	voltage DAC	Yes
VGA	video graphics adapter	No
VHDL	VHSIC hardware description language	No
VHSIC	very high-speed integrated circuit	
VLSI	very large-scale integration	No
WCO	watch crystal oscillator (see also ECO)	Yes
WDR	watchdog reset	Yes
WDT	watchdog timer	Yes
WIC	wakeup interrupt controller	Yes
WLCSP (also see CSP)	wafer-level chip-scale package	Yes
WOT	wake on touch	Yes
WPP (internal use only)	Whole Product Plan	No
WS	wait state	Yes
XML	extensible markup language	No
XRES	external reset	No
ZDB	zero delay buffer	No
ZIF	zero insertion force	Yes

Graphics Standards

Graphics in technical documentation have a primary goal of communicating information to the reader. Graphics standards are intended to make sure that illustrations are consistent and professional.

Practical Tip: When graphics and illustrations are created in Visio, use the "Fit size to contents" option (File > Page Setup > Page Size) before importing them to your source document.

Callouts

Callouts are text labels, lines, and arrows added to a graphic to point out important areas and information. Avoid pointing out the obvious or the irrelevant so that your graphics do not become cluttered.

Use the FrameMaker or Word graphic tools to add callouts to your imported screen capture and follow these guidelines.

Lines and Arrows

- Orient lines diagonally.
- Route callout lines over unimportant areas of the graphic.
- Limit the length of the callout lines.

Text

- Configure callout text in consistently sized blocks. Arial 10-point text is standard.
- Position callout text in one area – left or right of the screen capture.
- Use title case in a callout. See Titles for title case rules.
- Align the edges of all callout text (either all are right-aligned or all are left-aligned).

Color

Use color sparingly in technical documents. Most technical illustrations can be adequately rendered in black and white. When color is necessary to differentiate between items, choose from the following colors.

The colors chosen here are usually used as fill colors. More saturated colors may be necessary for data lines in charts and graphs. When all colors are saturated, use color in addition to other visual cues to differentiate between data lines.

Table 1. Cypress Color Palette for Technical Documents

Color	Notes
Black, 0x000000 Visio: Red 0, Green 0, Blue 0 Frame: Red 0, Green 0, Blue 0	Use black as the line color, but sparingly as a fill color, and only in small areas.
White, 0xFFFFFF Visio: Red 255, Green 255, Blue 255 Frame: Red 100, Green 100, Blue 100	White is the preferred fill in most graphics.
Red, 0xF50003 Visio: Red 245, Green 0, Blue 3 Frame: Red 100, Green 0, Blue 0	Do not use red as fill color. Use red sparingly to highlight important items.
Light yellow, 0xFEFEC2 Visio: Red 254, Green 254, Blue 194 Frame: Red 100, Green 100, Blue 76	
Light blue, 0xEEF0F4 Visio: Red 238, Green 240, Blue 244 Frame: Red 93, Green 94, Blue 96	

Color	Notes
Blue green, 0x558593 Visio: Red 85, Green 133, Blue 147 Frame: Red 33, Green 52, Blue 58	
Light green, 0x9FFFCB Visio: Red 159, Green 255, Blue 203 Frame: Red 62, Green 100, Blue 80	
Blue gray, 0xBBC7D7 Visio: Red 187, Green 199, Blue 215 Frame: Red 73, Green 78, Blue 84	
Medium gray, 0xA9A9A9 Visio: Red 169, Green 169, Blue 169 Frame: Red 66, Green 66, Blue 66	

Diagrams

Use diagrams to illustrate conceptual information covered in the text. You can use the graphic tools included in FrameMaker or Word, or use Visio to create the drawing and import it into FrameMaker or Word as an object. Use the following guidelines when creating diagrams:

- Keep diagrams simple and to the point. Avoid details that might distract from the intended message or are not discussed in associated text.
- Use white space effectively by grouping objects logically, but avoid clutter. Balance the diagram objects and allow enough white space (about 33 percent) to accommodate text translation.
- Use the following text attributes:

  Use 10-point Arial font.

  Use bold text for legibility when the text is on a shaded background.

  Capitalize all letters in a word only when required.

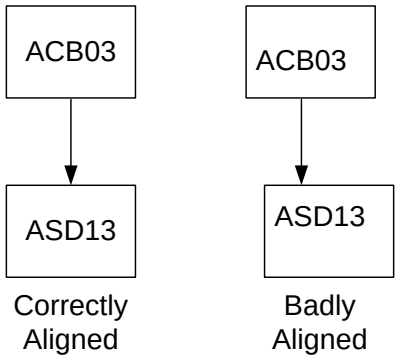
  Use title case. See Titles for title case rules.

  Punctuate complete sentences.
- Use the following line and arrow weight attributes:

  Line weight is 0.75 in FrameMaker and Word, and #3 in Visio for all lines and object lines (which outline parts).

  Arrows are solid black-filled triangles, medium weight (Visio arrow head style 13).
- Align and center individual objects and groups of objects relative to each other when appropriate. Avoid gaps or overhangs. Center text horizontally and vertically relative to its associated object, and center downward arrows horizontally as illustrated below.
- In Visio, hide the grid before you save your image (or a fuzzy checkerboard will appear in your image).

Figure 1. Diagram Example



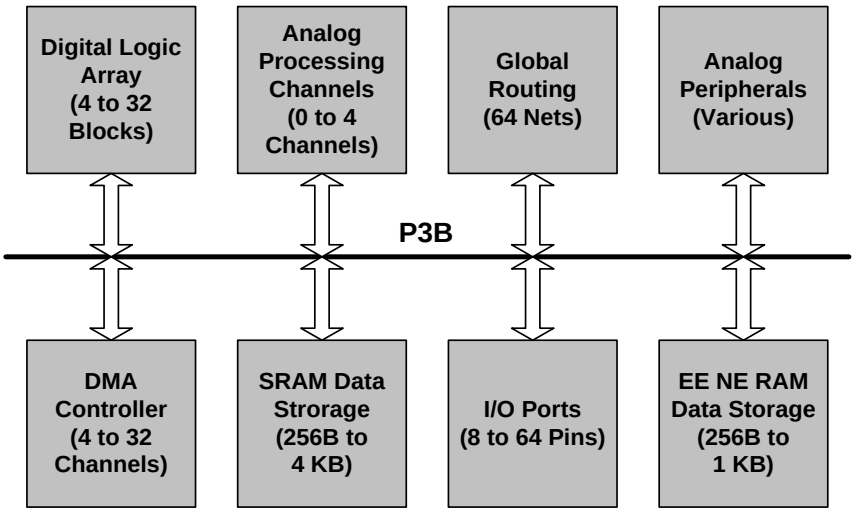
Figures

Figures and diagrams tell a story. They offer a pictorial representation of a certain aspect of your product and are used to visually reinforce what is written in the text.

All figures and figure titles are always centered. Figure titles go above a diagram so that cross references to the figure in a PDF file will jump to and show the figure starting at the top. Use the figure title or figure caption format in the template you are using. Even if the figure title is a sentence, use title case in the figure title without a period at the end. See Titles for title case rules.

Do not indent figures and figure titles to line up with nested lists. The reduced space can make it necessary to size graphics too small to read.

Introductory text precedes a figure. For example, “Figure 4-3 illustrates a block diagram.”



Make certain that what you say about a figure exactly matches what the reader sees in that figure. You do not want to raise any questions that the figure and the text together cannot answer.

Flow Charts

Use flow charts to show work flow or process. When creating a flow chart, use the same styles as described in Diagrams and the following guidelines:

Process Shapes

- Use a consistent size for each type of shape within a flow chart.
- Use rectangles for the process steps in the flow.
- Use ovals or circles for termination points.
- Use diamond shapes for decision boxes, which are steps that lead to different steps based on conditions.

Decision Boxes

- Phrase decision box text in the form of a question that is answered with a Yes or a No.
- Embed in the arrow the answer to the decision question or put the answer right next to the arrow.
- Ideally, within a flow diagram, the yes and no decisions are handled consistently if it is possible to do so. For example, within one flow chart, all no answers go to the right and all yes answers exit the bottom.

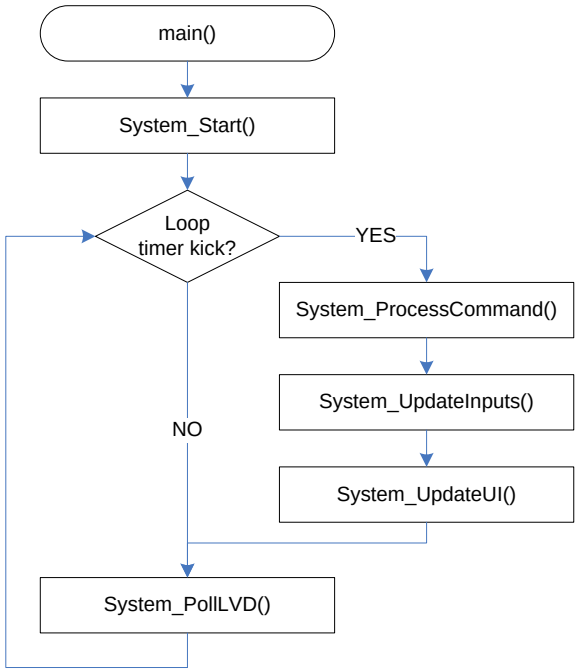
Arrows

- Draw all arrows horizontally and vertically. Do not use diagonal arrows in flow charts.
- Whenever possible, place arrows so they exit boxes from the bottom or right sides and they enter boxes from the top or left sides.
- Make arrows touch the boxes – not fall short of or enter them.

Text

- Use text size to be almost equal to the body text in the document (Arial 9 pt).
- Use parallel text. Begin text with all verbs or with all nouns.
- Punctuate complete sentences.
- Use title case in boxes. See Titles for title case rules.
- Leave 33 percent white space for translations.
- Avoid crossing other graphical elements with arrows.

Figure 2. Flow Chart Example



Graphs and Charts

Some data, especially performance data, is best displayed in graphs. For that information to be useful to customers, it needs to be formatted consistently.

In general, graphs are one-half page wide and one-third page high, with allowances for a title with a figure number and a few lines of text. Larger graphs are full-page width. This is consistent with the data presentation of most semiconductor manufacturers. Graphs MUST drop in directly, without scaling to fit in the final document. Make sure all parts of the graph are legible.

Excel Settings

When creating performance graphs for component and device datasheets, use the following settings in Excel:

- Half-page width: 5.2 cells at 64 pixels per cell
- Full-page width: 11 cells at 64 pixels per cell
- Height: 14 cells at 17 pixels per cell
- Text: Scale, axis labels, embedded trace identifiers in 8 pt Arial font
- X axis units in line above X axis title
- Y axis title is rotated 90° counterclockwise, adjacent to Y axis scale
- Axes should be reasonable whole numbers where possible
- Line weight = second narrowest for noisy data (for example, spectrum analyzer)
- Line weight = second heaviest for single-line data, color is discouraged

Formatting in Documents

The graphs are placed in the document in table form, with the title as a text line in the same cell as the graph (NOT as part of the graph, as this allows the editor to more easily control the figure number). Use a separate default-height empty row of cells between images as a separator. Lines for the table are set to vanish when printed. For this example, it was easier to control paragraph formatting in Word using tables than it is using columns.

Figure A. Input Noise Voltage versus Frequency

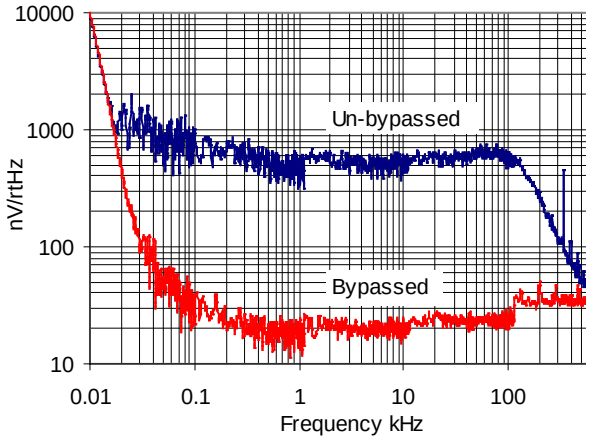


Figure B. Mean Offset Voltage versus Temperature

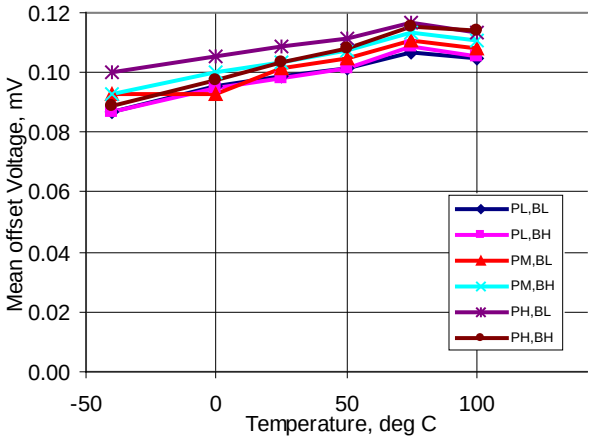
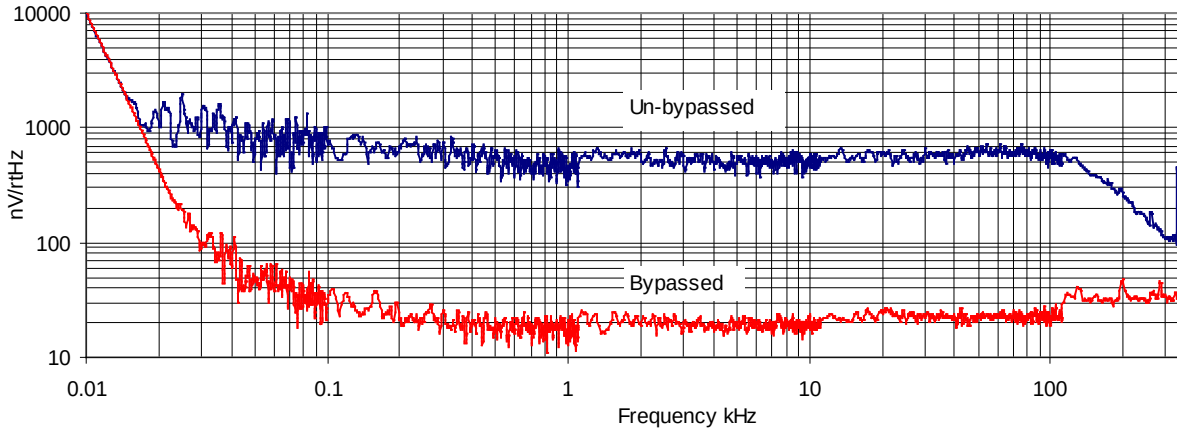


Figure C. Input Noise Voltage versus Frequency



Photographs

Photographs are used in technical documents for one of the following reasons:

- Show “how to” do something from the point of view of the customer performing the specified action.
- Show what it looks like or how to find it. A “how to find it” photo may be enhanced with callouts. Consider that a professionally done line drawing is sometimes more effective than a photograph, especially when showing items with little visual contrast.

- Show what is included in a package, kit, or assembly.

Follow these guidelines when using photographs in technical documents:

- Photo is clear and in focus.
- Photo is well lit. Use a professional flash or natural light. If you use a flash, take care to eliminate distracting reflections.
- The subject is on a white or neutral background with no clutter. Items not essential to the photo (e.g., power cords, stray resistors, or the edge of a soda can) should not appear in the photo.
- Where possible, the photo is tightly cropped to show only the item of interest and enough of the surroundings to provide proper context.
- Where possible, items with strong horizontal or vertical lines are shot straight on so that the lines remain parallel to the photo edges.
- Make sure that Cypress owns the right to reproduce any photographs you use.
- Seek files that meet the following minimum requirements:
    - For larger images, such as 8 x 10's, 3 MP (2048 x 1536 pixels)
    - For smaller images, such as 5 x 7's, 2 MP (1600 x 1200 pixels)

Screen Captures

When using screen captures in a document, use the guidelines that follow. Also see Callouts.

- Keep the screenshots approximately at the same size or lower than the original size. Text within the screenshots should appear smaller or equal to the text in the body content.
- Crop out the title bar if it has the product version appearing. This avoids having to update the screenshot if the product version changes.
- Keep the screen capture within the document's text boundaries where possible. This is done by manually cropping and pasting pieces of the screen capture or resizing it electronically.
- When all or part of a screen capture is white and matches the page color where it appears, manually draw a border around the screen capture.
- Do not crop so that objects are only partially shown doing a screen capture. For example, do not display half of an icon or scroll bar.
- Depending on the monitor and setup of the computer, screen captures may appear different in color. Try to keep all screen captures for the same document in the same colors and hues.

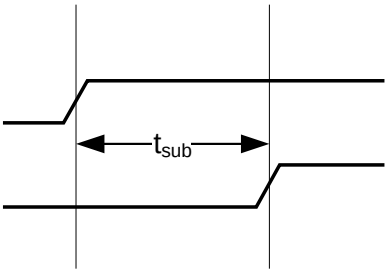
Timing Diagrams

Cypress timing diagrams should conform as closely as possible to the following rules within the limits of the software used to create the diagram.

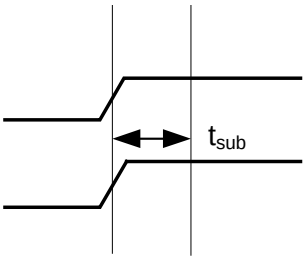
- All text labels are in 10-pt Arial.
- Every waveform is labeled with a corresponding signal name or other relevant identifier. Signal names are in all capital letters.
- All timing lines are in Visio size 5, which is 1.2 pt.

- Vertical solid lines are used to indicate points of reference for timing parameters. Reference lines are Visio size 1, which is 0.24 pt.
- Logic level transitions are either fast or slow. Fast transitions are shown with lines at a 90° angle from the horizontal portion of the signal. Slow transitions are shown with a diagonal segment at a 60° angle from the horizontal portion of the signal.

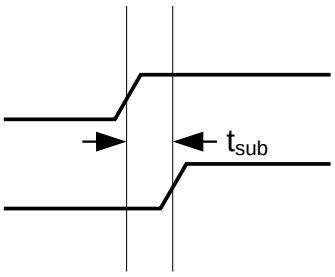
- Signal names are right aligned and do not touch the signal lines.
- The left and right ends of all signal lines are vertically aligned.
- The height of all signals in a diagram is the same and there is uniform space between them. For maximum legibility, use a full signal height between adjacent signals.
- Use a solid black triangle as the arrow head for dimension callouts. In Visio, choose arrow head style 13.
- Place parameter arrows and the label between two points of reference when possible.



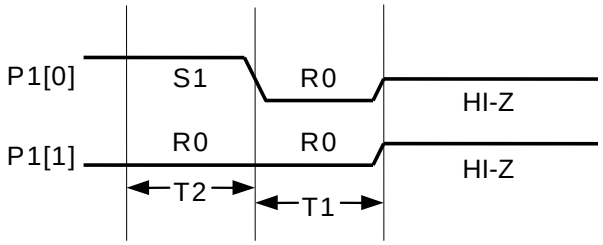
- Place the arrows between the points of reference and the label to the right if there is not enough room for both the arrows and the label between the lines.



- Place the arrows outside the points of reference and the label to the right as a last resort.

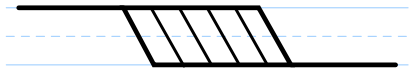
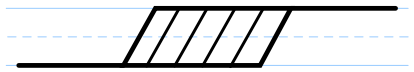
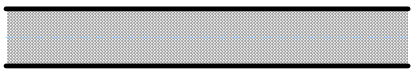
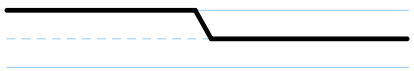


- If a point of reference line is shared, the parameters on either side of the reference are vertically offset from each other for maximum clarity.



- These notations have special meanings within timing diagrams (blue lines are for reference only).

Table 2. Special Notations in Timing Diagrams

Notation	Input Waveform	Output Waveform
	Must be steady-state high level	Will be steady-state high level
	Must be steady-state low level	Will be steady-state low level
	High- to low-level changes allowed within the interval shown[a]	Will change from high to low level within the interval shown
	Low- to high-level changes allowed within the interval shown[a]	Will change from low to high level within the interval shown
	Do not care[b]	Level unknown or changing
	NA	Center line represents high-impedance (HI-Z) state

[a] Cross hatching is thinner than timing lines (Visio line weight 3 in this example) and spaced approximately 0.1 in. apart at the same angle as the logic level transition.

[b] Do not care is a cross hatched fill pattern. Visio pattern 04 is used in the example.

Units of Measure

Insert a nonbreaking space between the value and the unit of measurement, even if the abbreviation is one letter (for example, 3 V). When a number and unit together are used as a modifier, a hyphen replaces the space. If a series of values are included in a sentence with varying decimal points, make all of them at the same level by adding trailing zeroes as needed. For example:

The following values of supply voltage are supported: 1.8 V, 3 V, 3.3 V, and 5 V.

This should be: 1.8 V, 3.0 V, 3.3 V, and 5.0 V.

Note that one exception to the rule is to use 64K, 256K, 512K, 1M, and so on (closed up, no hyphen or space) when referring to memory size.

The following is a comprehensive list of the units of measure used in Cypress documents.

micro. Use lower-case Greek mu symbol, where it is available. A lower-case 'u' can be substituted if necessary.

µA
: microamperes

µF
: microfarads

µH
: microhenries

µs
: microseconds

µV
: microvolts

µVrms
: microvolts root-mean-square

µW
: microwatts

Ω
: ohms

%
: percent

A
: amperes (amp)

BER
: bit error rate

°C
: degrees Celsius

c
: centi

cm
: centimeters

d
: deci

dB
: decibels

dBm
: decibel-milliwatts

DMIPS
: Dhrystone million instructions per second

f_{max}
: maximum oscillation frequency

fF
: femtofarads

fs
: femtoseconds

ft
: feet

fps
: frames per second

G
: giga

g
: grams

GB
gigabytes

Gb
gigabits

Gbps
gigabits per second

GHz
gigahertz

Hz
hertz

J
joules

k
lower-case k is kilo, 1000. The only examples of usage are kg, ksps, kbps, kΩ,

K
upper-case K, kilo, 1024, or Kelvin
(Note this distinction: uppercase “K” refers to 1024; lowercase “k” refers to 1000

kΩ
kilo-ohms

Kb
Kilobit, 1024 bits

KB
Kilobyte, 1024 bytes

kbps
kilobits per second (Not kbits/s)

kg
kilograms

kHz
kilohertz

K
thousand units

kW
kilowatts

L
liters

m
meters
milli

M
mega, 1000^2 or 1024^2

MΩ
megaohms

mA
milliamperes

MB
megabytes (1024^2 bytes)

Mb
megabits (1024^2 bits)

Mbps
millions of bits (megabits) per second

MBps
millions of bytes (megabytes) per second

MHz
megahertz

MIPS
millions of instructions per second

mm
millimeter

ms
milliseconds

Msps
mega samples per second

mS
millisiemens

mV
millivolts

n
: nano

N
: newtons

nA
: nanoamperes

ns
: nanoseconds

nV
: nanovolts

pA
: picoamperes

pC
: picocoulombs

pF
: picofarads

ppm
: parts per million

ps
: picoseconds

rpm
: revolutions per minute

s
: seconds

sps
: samples per second

sq ft
: square feet. Do not use ft^2

V
: volts

V/ns
: volts per nanosecond

W

watts

A

a

A is an indefinite article, which typically designates an unidentified, generic, or unfamiliar person or thing.

Use *a* before words that begin with a consonant sound, including *e*. Examples include *a car, a horse, a ewe*.

For more information, see Articles.

Abbreviations or Acronyms

If you think the target audience is unfamiliar with an abbreviation or an acronym, specify it when you first use it.

above

Do not use when referring to items that occur earlier in a document. Use specific cross references where possible. Use *earlier* or *previous* in places in which specific cross references are inappropriate; for example: “Earlier in the tutorial you made an LED blink.”

ACK

ACK is capitalized when it is used to mean an acknowledgement of receipt of a signal or packet from one process or device to another. The past tense of ACK is ACKed.

Acronyms

Do not define an acronym in a heading.

Spell out the acronym on first mention. If the acronym has been previously defined in the document, use the acronym unless for stylistic reasons you believe that spelling out the term improves clarity or that the reader will encounter the text for the first time (e.g., jumping around the document for reference). EXCEPTIONS: Commonly used acronyms that are central to the document do not require a spellout in headings. Examples include CPU, I^2C, UART, ADC, and MCU.

In Cypress datasheets, acronym tables are inserted at the beginning of the document. See also datasheet.

active LOW

Not capitalized. Hyphenated when used as a modifier.

Active-LOW signals are portrayed in several ways, depending on product, family, market segment, and design tool requirements. Whatever standard your document requires, keep it consistent.

Active Voice

In active voice, the subject of the sentence is the person or thing that *performs* the action of the verb in the sentence. In passive voice, the subject of the sentence *receives* the action of the verb.

For example:

Active:

- The OUT_P1 register selects the bypass outputs.
- Cypress' USB-to-UART Bridge helps to interface any MCU system with a UART interface to a PC, as Figure 5 shows. (“as Figure 5 shows” is the active voice; “as shown in Figure 5” is the passive voice)

Passive:

The bypass outputs are selected by the OUT_P1 register.

The passive voice is problematic in technical writing because:

- It can be difficult to translate. Some languages do not use a passive construction, or they use it so rarely that it sounds odd or awkward.
- It can hide the actor, which can introduce ambiguity. When the subject of the sentence is the *receiver* of the action, the actor that performs the action may be omitted. For example, “The INM bit is cleared to disable the interrupt.” It is not clear from this sentence who or what cleared the INM bit.

Use active voice most of the time in technical communication. It is occasionally appropriate to use passive voice when the actor is unknown or unimportant, or in error messages or troubleshooting guides where specifying the customer as the actor appears to blame them for the problem.

addr

Lowercase the abbreviation for address.

Adjectives, Compound

For an explanation of compound adjectives, see Compound Modifiers.

For an explanation of coordinate adjectives, see Coordinate Adjectives (and the use of commas).

Adverbs

Use adverbs sparingly. Adverbs are a good tool for driving home a point or introducing a new perspective or outcome. However, if overused, adverbs can make a document very difficult to read.

Avoid beginning sentences with adverbs. Adverbs that start a sentence add little to the meaning of that sentence. Also, adding “-ly” to a word to create an adverb (for example, pointedly) is incorrect.

afterward

No “s”

a.m.

Use lower case for designation of time. 12 a.m.

an

This is an indefinite article, which typically designates an unidentified, generic, or unfamiliar person or thing.

Use *an* before words that begin with a vowel sound; use *a* before words that begin with a consonant sound. Examples include *an honest person, an ivory tower*.

For more information see Articles.

analog

Normally not capitalized (unless used as a Heading/Title or, for example, a formal register name). For example: This bit allows posted analog interrupts to be read, cleared to zero, or set to one.

AND

Capitalized when used as a binary or logical operator. Examples of read-modify-write instructions include AND, OR, and XOR. The past tense of the binary or logical operation is ANDed. For example: This bit is ANDed with LVD to produce a throttle-back signal.

antennas

The plural form of antenna

Anthropomorphize

Knows, believes, understands, sees, considers … all of these words belong to creatures that think. Try to avoid applying these verbs to code, devices, networks, protocols, boards, or any other inanimate object or intellectual property. Only developers and designers consider or know something. This is for translation, but also for cultural reasons. Many of these words are NEVER applied to things and, therefore, it is difficult for your reader to comprehend how or why you would do so.

Apostrophes

Apostrophes (') are used in three ways:

1. An apostrophe can indicate ownership. To test for correctness, turn the words around into an "of the" phrase.
   - For example: Cypress' patents – can also mean – the patents of Cypress.
2. An apostrophe can mark a missing letter or letters in contractions. However, do not use contractions in technical writing.
   - For example: it's = it is, don't = do not, you're = you are, and isn't = is not.
3. An apostrophe is never used to form a plural except in the cases in point 4.

- For example:The plural of truck is trucks, not truck's.

4. An apostrophe is used to form the plurals of letters, abbreviations with periods, and words used as nouns.
   - For example:She got all B's last year in school.
     The engineers all had Ph.D.'s.
     John's *maybe's* were annoying.
5. An apostrophe indicates decades when the first two numbers in the year are omitted.

For example: The laws were stricter in the '90s.

Application Notes

See spec 44-00096.

architecture

Refers to the structure and intellectual property unique to a device or a system (for example, a mobile phone or a USB hub). In addition, architecture is an aggregate term used to describe related parts.

Other aggregate terms for parts are *family* and *platform*. An architecture may contain multiple families. A platform may contain multiple architectures. PSoC 1 is an architecture. Families of parts are related members of a common architecture if they employ much of the same intellectual property (IP) as other families.

Architectures are differentiated from each other by the use of differing IP. For example, they may use different fixed-function peripherals, programmable analog and digital blocks, and core CPUs.

ARM® (see also Cortex®-M0)

ARM® [with the registered trademark symbol] must always be used in conjunction with mentions of its product brands, such as "Cortex" (as such):

ARM® Cortex®-M0

ARM® Cortex®-A15 processor

Please check each ARM brand in a presentation on the ARM website to determine whether the product brand is an (R) or a (TM). Do not accept prior usage in vaulted content as verification.

Please note that what ARM wants to protect is the *name* of the product (Cortex), not the *type* of Cortex (M0)

More information is available on the web at:

http://www.arm.com/about/trademarks/

http://www.arm.com/about/trademarks/guidelines/index.php

http://www.arm.com/about/trademarks/arm-trademark-list/index.php

http://www.arm.com/about/trademarks/arm-trademark-list/Cortex-trademark.php

around

Does not translate well because the word literally means “on all sides.” Unless the context is a physical direction, use “about” or “approximately.”

Articles

An article is a word that precedes a noun (see a, an, and the) and determines whether the noun is definite (the) or indefinite (a or an). A definite article is used when the noun refers to something specific; an indefinite article is used when the noun is nonspecific (not differentiated between others of the same class).

He walked down a street. (indefinite)
He walked down the street in front of my house. (definite)

Never think that you can use a shortcut and leave these words out of a sentence. You may reduce the word count but you make it harder for your reader to understand what you are trying to say. This is especially important if your reader uses English as a second language.

Attribution

End a quote, “Rodgers said” instead of “said Rodgers” unless the attribution is followed by additional detail: “The chip business is recovering,” said Rodgers, adding that the industry showed a book-to-bill ratio of greater than unity for the first time in two years.

auto pop

Two words.

auto-tuning

Hyphenate, uppercase “A” when referring to SmartSense.

autocal

One word, do not hyphenate.

autozero

One word, do not hyphenate.

B

back up, backup

Use back up (verb) or backup (noun, adjective) but never back-up.

bandgap

One word.

base board

Two words.

baseline

One word.

below

Do not use to refer to something that occurs later in a document. Use specific cross references where possible. Use *later* in places where specific cross references are inappropriate; for example: “Later in the tutorial you will vary the brightness of the LED with a potentiometer.” See above.

bidirectional

One word, no hyphen.

biquad

One word.

binary digit (bit)

In acronyms and units of measure, a bit is indicated by a lower-case b. For example, LSb = least-significant bit, Mbps = megabits per second.

Blu-ray

Hyphenate.

Boilerplate

Boilerplate is standardized text, usually containing trademark and copyright information and legal disclaimers. Do not retype boilerplate or even pick it up from a recent press release; if you do, you run the risk of creating or proliferating mistakes. Most boilerplate is maintained in the templates of the various document types, under their spec numbers in the Document Management System.

Boilerplate Items

In cross-references, use “For more information, see <publication or URL>”

Bold

Use bold text sparingly for emphasis. If everything is bold, nothing stands out.

- Use bold for commands, menu paths, and icon names in procedures.
  - For example: Click the **File** icon and then click **Open**.
- Use bold for keyboard commands in procedures.
  - For example: Press **Enter** or **Ctrl C**

See Procedures.

bond-pads

Hyphenate.

bootloader

One word.

bootup

Use boot up (verb) or bootup (noun) but never boot-up.

Booting is the process of copying executable code from flash or ROM to RAM where it can be run, and then running the code. It is similar to, but not synonymous with, startup. Use bootup to refer to the sequence of events that takes a device from power on (or reset) to running firmware.

Brackets

Brackets ([ ]) are used:

- To enclose corrections, explanations, or comments in quoted material.
  - For example: “These [the SLIMO bits] are driving the device faster and faster.”
- To add another explanatory layer to characters and text in parentheses.
  - For example: The chip speeds up when the SLIMO bits (located in the IMO Chapter [page 234]) are used.
- To display bit ranges.

- For example: Data[7:0]

- However, do NOT use to display keyboard commands in a procedure.
  - For example: Press **F1** for additional information.

breadboard

One word.

breakeven

Use breakeven as a noun or adjective and break even as a verb.

breakpoint

One word when used in the context of a software debugger; for example: “Set a breakpoint at line 39.”

broadcast

One word.

brownout

One word.

built-in (adj.)

Always hyphenate. Means to form a permanent or essential element or quality. Never inbuilt or builtin.

bypass

One word as a verb or an adjective.

byte

In acronyms and units of measure, a byte is indicated by an uppercase B. For example, LSB = least-significant byte, MB = megabytes.

C

C compiler

Always use “C compiler” with a lower case “c” in “compiler,” unless it is part of a product name.

callouts

See Graphics Standards.

cannot

Use instead of can not.

capacitive sensing


not hyphenate.

capitalization

Capitalize proper nouns, not common nouns. Do not use capitalization (especially not capitalization of whole words) for emphasis. Use bold (sparingly) for emphasis. There are many standard accepted rules for capitalization that do not occur often in the daily business of a semiconductor company.

Follow standard capitalization rules from Standard Editorial Resources unless overruled here.

- When specifying software user-interface items, such as the labels on dialog boxes, capitalize the text as it appears in the software.
  - For example: “In the **Open** dialog, select the file from the list or type the file name in the **File name** box.”
- Do not capitalize the spelled out version of an acronym unless it is a proper noun.
  - For example: the American National Standards Institute (ANSI) but electrically erasable programmable read-only memory (EEPROM).
- Capitalize the first word of a list item in bulleted and numbered lists even when the items are not full sentences. Do not capitalize every word in a bulleted list.
- When referring to a code example, capitalize the names of variables and other code items exactly as they appear in the example. Even if the programming language used is case insensitive, use consistent case in all code examples and all text describing the code example.
- Capitalize Contents, Introduction, Index, Preface, Chapter, Section, and other book parts when referring to them from other parts of the document. Do not capitalize the word “page” in cross references.

  Examples:
  - “See the Index on page 47.”
  - "See Chapter 2, Installation."
  - See "Section 3.1, Before You Install."

CapSense

Cypress' solution for capacitive sensing of buttons and sliders

cascadable

Adjective. Capable of being used in a sequence (e.g., cascadable data path).

Caution

Use the key word *Caution* to denote that failure to avoid the flagged situation **may** result in system damage or data corruption. Use this word only where it is appropriate. See also Note, Warning, Caution, and Danger.

CD-ROM

Hyphenated, all caps.

cellphone

One word.

charts

See Graphics Standards.

Check box

Two words, no hyphen.

checkerboard

One word.

checksum

One word.

clear

Clear is an operation that leaves a bit at logic state zero, set is an operation that leaves a bit at logic state one, and toggle means to switch a bit to the opposite state. It is common to say, "set the bit," "clear the bit," and "toggle the bit." However, we increasingly see people whose background does not include bit manipulation and who may be unaware of these meanings. Use "set the bit to one" and "clear the bit to zero" at least on the first occurrence of the terms in a chapter or section.

colons

Colons (:) are used after a complete sentence (not after a sentence fragment; you should be able to substitute a period for a colon), often to introduce bulleted or numbered lists.
Examples:

- There are three colors in the picture: yellow, green, and pink.
- Three items were found in her purse:

  Pen
  Wallet
  Glasses

color

See Graphics Standards.

commas

Commas (,) indicate the smallest interruption in continuity of thought or sentence structure. The use of a comma is mainly a matter of good judgment, with ease of reading as the end product. When possible, structure sentences to limit the number of commas.

A few rules governing commas are listed here:

- In a series consisting of three or more elements, separate the elements by commas. Use a serial comma immediately before a coordinating conjunction (*and, or, nor)* preceding the final item in a list. In a sentence listing only two items, do not place a comma before an *and* or *or*.
  - For example:The man bought watermelon, bread, ice cream, and cups for the picnic.
    The man bought bread and butter at the store.
- If clauses contain commas or if lists are within lists, use semicolons to separate them.
  - For example:The list compared apples, oranges, and berries; serving bowls, glass ware, and baskets; and canning jars, aluminum foil, and freezer bags.
- When clauses of a compound sentence are joined by a conjunction, place a comma before the conjunction unless the clauses are short and closely related. Joining words are *for*, *and*, *nor*, *but*, *or*, *yet*, and *so*. Do not use a comma after a joining word.
  - For example:The family drove their vehicle hurriedly to the airport, *but* the plane they wanted to fly on had already taken off.
  - The family hurried to the airport but they missed their plane.
- If a dependent clause with or following a main clause is restrictive (that is, if it cannot be left out without altering the main idea of the sentence), it is not set off by commas. If it is nonrestrictive (that is, an interrupting word or phrase), it is set off by commas.
  - For example:The woman who introduced us to Bruce approached our table. (restrictive)
  - Monica, who had introduced us to Bruce, approached our table. Our group was, however, unable to agree. (nonrestrictive)
- In close punctuation, the dependent clause is both preceded and followed by a comma.
  - For example: After a very long day, the organizers of the event are going to clean up, unless the grounds maintenance workers are on duty.

- Generally, insert a comma after introductory words or phrases such as follows: *however*, *nevertheless*, *regardless*, *instead*, *on the other hand*, *as a result*, *consequently*, *moreover*, *furthermore*, *that is*, *also*, *fortunately*, *obviously*, *allegedly*, *incidentally*, and *generally*.
- 1. An adverbial phrase at the beginning of a sentence is usually followed by a comma.
  2. A comma is not used after an introductory adverbial phrase that immediately precedes the verb it modifies.
  3. An adverbial phrase or clause located between the subject and the verb is set off by commas.
  - For example: 1. After reading the note, Mary called her travel agent.
    2. In the doorway stood a man selling magazines.
    3. Mary, after reading the note, left immediately for the travel agency.
- Transition Words at the beginning of a sentence are often followed by a comma. Transitions include:
  - **Adding** – and, besides, in addition, also, furthermore, moreover
  - **Cause and Effect** – thus, therefore, consequently, as a result, accordingly
  - **Comparing** – similarly, in the same way, at the same time, on the other hand, instead
  - **Concluding** – therefore, as a result, consequently, after all
  - **Emphasizing** – in fact, indeed, obviously, clearly, as a matter of fact
  - **Giving Examples** – for example, for instance, namely, specifically, that is, to illustrate
  - **Sequencing** – first, second, finally
  - **Summarizing** – in brief, on the whole, in conclusion, to sum up, in other words

Company Names

Never use a comma in a company name unless it is required by law (legal documents) or mandated by a company other than Cypress. Always verify the full and formal name of any company. The correct legal way to refer to Cypress is either “Cypress,” “Cypress Semiconductor Corporation,” or simply “Cypress Semiconductor Corp.”

The possessive case of Cypress is to add an apostrophe: Cypress’.

Component

Uppercase Component when it refers to a collection of files, such as a symbol, schematics, application programming interfaces (APIs), and documentation that defines functionality within the PSoC device. Examples of components include a timer, a counter, and a mux.

A component name is capitalized either when used as part of the name of a specific component or when referring to a PSoC Component. The next two sentences are examples of both scenarios: “The CapSense Sigma Delta Component uses a sigma delta modulator to detect and quantify capacitance changes. Other Components use other methods.”

Components are used in PSoC Creator. See user module for the PSoC Designer counterpart.

Component Configuration Tools

Simple graphical user interfaces in PSoC Creator

Component Datasheets

Component datasheets provide detailed information for customers as they work on their chip and software designs and are incorporated into the PSoC Creator GUI.

Compound Modifiers

Compound modifiers or compound adjectives, like normal adjectives, modify noun phrases.

Compound modifiers that appear before a noun phrase generally include a hyphen between each word, with some exceptions. Hyphens are used in this way to help prevent confusion; without their use, a reader might interpret the words separately, rather than as a phrase. One or more hyphens join the relevant words into a single idea.

Examples

- Man-eating shark (as opposed to *man eating shark*, which could be interpreted as a man eating the meat of a shark)
- Zero-liability protection (as opposed to *zero liability protection*, which could be interpreted as there being no liability protection)
- Line-generated combustibles
- EPA-approved containers
- Stainless-steel pipes
- Gamma-ray spectrometer

Hyphenate compound modifiers with a numerical first part.

- 55-gallon drums
- 24-inch pipe
- 3-inch-diameter well

Not all adjectives modifying a noun phrase are necessarily parts of one or more compound adjectives. *White-hot metal* and *white hot metal* refer to subtly different things: in the first, *white* modifies *hot* which modifies *metal* – it is this layering of modification which calls for the hyphenation to clarify the meaning, that the metal mentioned is very hot. In the second example, however, *white* and *hot* separately modify the noun – if one were removed, the other's relationship with the noun would be unchanged. If a noun has more than one modifier and if each word modifies the noun clearly without the other modifying words or word, a hyphen is unnecessary.

- Big black dog
- Wild swirling wind

Where both (or all) of the words in a compound modifier are nouns, it is not necessary to hyphenate them, as misunderstanding is unlikely.

- Waste storage area
- Preventive maintenance schedule

It may be appropriate to distinguish between compound modifiers whose adverb has the suffix *-ly*, such as *quickly* and *badly*, and those whose adverb does not, such as *well*. The *-ly* suffix indicates that the word is an adverb that is intended to modify the adjective that it precedes and so does not require hyphenation. *Quickly* and *badly* are unambiguously adverbs. Other adverbs (such as *well*)

can commonly be used as adjectives; therefore these adverbs without the -ly suffix are accompanied by a hyphen. For example, one could speak of a *well-known actress* or a *badly known actress*.

- Privately owned company
- Partially consumed sandwich

If the compound modifier that would otherwise be hyphenated is changed to a post-modifier – one which is located after the modified noun phrase – then the hyphen is not necessary: the actress is well known.

Compound Subject

A compound subject occurs when two or more individual noun phrases are coordinated to form a single noun phrase. Example:

A real-time clock and a counter are available on F-RAM products. (The two subjects are “clock” and “counter”.)

A compound subject requires a plural verb. When a compound subject precedes a parenthetical phrase that starts with “which,” use a plural verb. Example:

Batteries require power-management circuits and firmware, which add system cost and increase complexity. (The two subjects that dictate the use of “add” (plural verb form) are “circuits” and “firmware.”

comprise

Comprise is often confused with “consists of” and “compose” and is usually used incorrectly. The whole “comprises” its parts. The parts “compose” the whole. This is often turned around to say that the whole is “composed of” its parts.

Comprises means “includes but is not limited to.” Consists of means “includes only.”

Example

- My household *comprises* an extremely tidy person and an extremely sloppy person who get on each other's nerves.
- My household *consists of* six individuals: two moderately tidy people, two moderately sloppy people, one extremely tidy person, and one extremely sloppy person.

Example

- The United States *comprises* 50 states.
- The United States *is composed of* 50 states.

“Comprised of” is NEVER correct.

Because “comprised” is so often used incorrectly, it is best to avoid it.

continued

The word is lowercase and is spelled out if possible. When continued is used to indicate that a table or register heads (or something similar) resumes on another page, spell out the word, use italicized lowercase letters, and put it in parentheses.

Contractions

Do not use contractions. For example: *Don't* use contractions, instead write it as *do not* use contractions. *It's* should be *it is* and *let's* should be *let us*. There is one exception to this rule: "don't care" is sometimes used in code; do not change it.

Coordinate Adjectives (and the use of commas)

Adjectives that appear in sequence with one another to modify the same noun.

Let's look at three examples. Which sentences use commas appropriately between adjectives?

1. We were prepared for a long, tedious, planning session.
2. Allen owns several blue, wool sweaters.
3. In order to get home, we must travel over several narrow, winding, treacherous roads.

Only the last sentence is punctuated correctly.

The rulebooks tell us to put commas between coordinate adjectives, but because it is not always easy to tell when adjectives are coordinate, we apply two simple tests to be sure:

First, we try placing the word "and" between the two adjectives. Second, we reverse them. If, in both instances, the resulting phrase still sounds appropriate, we are most likely dealing with coordinate adjectives and should use a comma between them.

Let's try those two tests on sentence 1: We could say "a long and tedious planning session" or "a tedious, long planning session." Thus, we need the comma between the words long and tedious. However, we could not say "a tedious and planning session," nor could we say "a planning, tedious session." Thus, we should not use a comma between the words tedious and planning.

In sentence 2, we do not need a comma between the words blue and wool because the two adjectives are not coordinate. It would sound illogical to say "blue and wool sweaters" or "wool blue sweaters."

The adjectives in sentence three—narrow, winding, and treacherous—are coordinate with one another, so the commas are appropriate. The word "and" would sound fine between those words ("the narrow and winding roads" or "the winding and treacherous roads"), and I could easily rearrange the three modifiers in any order.

coprocessor

One word, no hyphen.

Cortex®-M0 (see also ARM®)

ARM® [with the registered trademark symbol] must always be used in conjunction with mentions of its product brands, such as "Cortex" (as such):

ARM® Cortex®-M0

ARM® Cortex®-A15 processor

Please check each ARM brand in a presentation on the ARM website to determine whether the product brand is an (R) or a (TM). Do not accept prior usage in vaulted content as verification.

Please note that what ARM wants to protect is the *name* of the product (Cortex), not the *type* of Cortex (M0)

More information is available on the web at:

http://www.arm.com/about/trademarks/

http://www.arm.com/about/trademarks/guidelines/index.php

http://www.arm.com/about/trademarks/arm-trademark-list/index.php

http://www.arm.com/about/trademarks/arm-trademark-list/Cortex-trademark.php

Cross References

Use cross references to help the reader locate more information about a subject. When creating cross references in text to previous or following information, type *previous* or *following* instead of *above* or *below*. This prevents reference problems if a page break occurs when the document is revised. Cross references use the Cypress hypertext blue color (RGB = 12%, 32%, 63%, or RGB bit values of 31, 82, and 162 (0x1F52A2). Use these guidelines when writing cross references.

- Always include a page number with a cross reference, unless it is on the same page.
- Use a cross reference if you cannot easily repeat or do not want to repeat information.
- Do not use a cross reference if the information is vital to complete a procedure you are writing.
- When referencing another document, include only the document title, not the chapter or page number.
- When referencing internal documents, a spec or a memo number is acceptable.

For more information on hyperlinks, see Hypertext.

Ctrl

When specifying this key on the keyboard, use Ctrl, not Control. For example: Press **Ctrl Alt Delete**.

Current/Voltage Source for Sensors

IC that generates precise voltage or current supplies for sensors

Cypress’

The possessive form of Cypress is “Cypress’.”

D

Danger

Danger is a key word used in Notes, Warning, and Caution statements with a very specific meaning. It means that failure to avoid the flagged situation **will** result in death or serious injury. Use very rarely, and only where appropriate. See also Note, Warning, Caution, and Danger.

Dashes

An em dash (—) is used in an open-ended date range. For example, T. J. Rodgers [1948—]. En dashes (–, **Ctrl** +**q**, **Shift** +**p** in FrameMaker) have certain specific uses, but are not a substitute for other punctuation. For example, use the en dash to:

- Form a break in titles and headings.
- Form a break between a term and its definition.
- Create a minus sign. When used as a minus sign, place spaces between the en dash and the number unless the minus sign is unary. For example: 3 – 2, –2.
- Create ranges in datasheets. (In other documents, use “to” when describing a range.) There is no space between the en dash and the numbers in a range.

To create an en dash in Word or PowerPoint, use the following procedure:

1. Click where you want to insert the en dash.
2. On the **Insert** ribbon, click **Symbol**.
3. From the **Subset** list, select **General Punctuation**. The **Subset** list is not in alphabetical order.
4. Select **EN DASH** and click **Insert**.

See also Hyphens.

data

Data is technically a plural word, but it is used as either singular or plural and it always takes a singular verb. For example: “The data is sent when the TX bit is HIGH.”

datapath

One word

datasheet

One word. In Cypress datasheets, acronym tables are inserted at the beginning of the document. See also Acronyms.

Dates

Always use Arabic numerals without “st,” “nd,” “rd,” or “th.” For international audiences, use the long version of the date (for example, September 12, 2006).

dead band

Two words.

deassert

One word, do not hyphenate.

debugger

Capitalized when referring to the name of a specific subcomponent of PSoC Designer or PSoC Creator. Lowercase when used generically.

definitions

Put double quote marks around a new term that we’ve defined (for example, the amount of time required to transmit a single bit is called the “bit time.”)

de-skew

Hyphenate for clarity.

device

Device is the preferred generic term for a single IC. For example: “See the datasheet for your PSoC device.”

Device Datasheets

Device datasheets are produced using Adobe FrameMaker software. Engineering, Marketing, or both create these documents, with Tech Pubs editing and verifying style and structure. Tech Pubs provides and maintains the datasheet template through the Document Control Spec System (Spec # 001-08694 in FrameMaker).

Device Editor

Capitalized when referring to the name of a specific subcomponent of PSoC Designer.

Diagrams

See Graphics Standards.

digital

Not capitalized (unless used as a Heading/Title or, for example, a formal register name).

Digits, Significant

See Accuracy and Precision.

do not use

Denotes that a package pin has a bond wire but we do not want to document the functionality of the pin to the customer. Abbreviated DNU in datasheet tables.

double-click

Hyphenated.

drag-and-drop

Hyphenate as an adjective:

For example: drag-and-drop technology

Three words as a verb.

For example: dragged and dropped as icons to design a system in PSoC Creator

Lowercase the phrase unless it begins a sentence.

dual port

Two words.

E

earlier

Use specific cross references when possible. In places where specific cross references are inappropriate, use “earlier” or “later.” Do not use above and below. For example: “Earlier in the tutorial, you made an LED blink.”

easy to use

Hyphenate as an adjective

> Example: Buy your easy-to-use USB device today.

Three words as a verb

> Example: The USB device is easy to use.

Lowercase the phrase unless it begins a sentence.

e.g.

Use “for example” instead. Always place a comma after it: e.g., and do not confuse it with i.e.

Ellipsis

When you omit words in quoted material, use an ellipsis (…), to indicate the omission. The ellipsis also indicates omissions in lists; for example: “The progression of sensor data by sensor number from 0 to (m × n) is Tx0, Rx0, Tx0, Rx1, … Tx0, Rxn, Tx1, Rx0, Tx1, Rx1, … Tx1, Rxn … Txm, Rx0, Txm, Rx1 … Txm, Rxn where 'm' and 'n' are the number of Tx and Rx elements, respectively.” Use the ellipsis character (FrameMaker, [**Ctrl**] [**q**], [**Shift**] [**i**], Unicode 0x2026), not three periods.

em dash

See Dashes.

email

One word, no hyphen.

Emphasis

Do not use italics, underlines, or capital letters for emphasis. Use bold sparingly for emphasis. Use a note if appropriate. See Note, Warning, Caution, and Danger.

Use italics for:

- File names and path names referenced in text

- Titles of books or publications
- Cross references to glossary definitions or other reference text (these are bold and italic)

en dash

See Dashes.

Errata

An errata (or erratum) alerts the customer to items, features, or capabilities of a device that do not meet existing documented versions of same. For example, if the datasheet states that the device meets 2-kV ESD handling and some parts are meeting only 1600 V, then we will publish an erratum. Tech Pubs provides and maintains errata templates through the Document Control Spec System (Spec # 001-11982 in MS Word). Technically, the word errata is the plural of erratum. In our use, however, errata is the name of the document that lists the errata, and as such it is singular and takes a singular verb. If you are discussing several such documents, refer to them as 'errata documents' rather than 'erratas.'

etc.

Use “and so on” instead. Do not use if the list is preceded by “such as”

exclamation points

Exclamation points are not typically used in technical writing. The exclamation point is replaced with a Warning box or Important Note. See Note, Warning, Caution, and Danger.

Extensible, extendable

Use extensible.

Exponents

Show exponents using superscript.

x^5 not x^5

This does not apply to code.

EZI2C Slave

The “2” is not superscripted in this PSoC Creator Component.

F

F-RAM

Hyphenate Cypress trademark.

family

Family is an aggregate term for related parts. Other aggregate terms for parts are *architecture* and *platform*. A family is a group of devices with similar characteristics but different part numbers. Most families of devices are specified by using placeholders in the device number, such as the CY8C21x45 family and the CY7C603xx family, or by truncating the device number (the CY8C36 family). An architecture contains multiple families and a platform contains multiple architectures. For more information see architecture and platform.

FAQ

Frequently Asked Questions. An FAQ is a list of questions customers have asked (or are likely to ask) and the answers to those questions. Plural is FAQs.

feedback

One word.

few, many, several, some

These words are ambiguous and interpretations vary by reader and context. Whenever possible, replace with a specific raw number, a range, a fraction, or a percentage. In most contexts, use “a few,” rather than “few.”

Figures

See Graphics Standards. A figure “illustrates” or “shows”; it does not “tell” or “describe.”

Figures, Significant

See Accuracy and Precision.

file name

Two words. When referencing a file name in a technical document, the file name is set in italics.

file system

Two words.

flash

Lowercase f. SEEQ Technology used to have a trademark on the word ‘Flash’ when used to describe semiconductor memory chips. They abandoned this trademark in 1991, so it no longer warrants special handling. Alternative usage is “flash memory.”

flex-pod

Hyphenated.

flip-flop

Hyphenated.

 w Charts

See Graphics Standards.

folder

Use instead of “directory” or “subdirectory” when referring to Windows file organization. We have no standard for other OSs.

Footnotes

Use footnotes sparingly or not at all in general text. Footnotes are sometimes necessary in tables to provide additional information about an entry that does not fit within the format of the table cell. Follow these rules:

- The footnote must appear on the same page as the reference. If the same text is used as a footnote on multiple pages in the same document, it appears at the bottom of each page where it is referenced.
- Specific document templates control footnote numbering. If the footnotes appear at the bottom of the table (user module datasheets, for example), the footnote numbering may restart with each table. If the footnotes are at the bottom of the page, the footnotes are consecutive throughout the document.

Full HD

1,920 x 1,080 pixels

Future tense

It is rarely appropriate to use future tense in technical writing. Almost always, you can use a verb in the declarative present tense with no loss of meaning. This results in reduced translation cost and increased clarity for ESL readers.

G

Gender-Specific Language

Avoid gender-specific language. However, if you cannot avoid it, use the following example as a guide.

Change: The user can change his or her password often.

To: Users can change their passwords often.

Use the alternative to man: *person*, *people*, *human beings*, *machine-made*, *synthetic*, *to operate*.

Replace the male or female pronoun with: *you* or *your*.

Gives

DO not use to mean "presents", "shows", or "illustrates". Use "shows" for screenshots and photographs; use "illustrates" or "demonstrates" for block diagrams and flow charts. Use "lists" or "summarizes" for tables.

For example:

Table 1 gives the parameters for the feature". Rewrite as "

Table 1 lists ... or

Table1 summarizes...

gerunds

Gerunds are verbs in their “ing” form. They reduce the strength of your text. Remove gerund construction wherever possible without the loss of technical accuracy. The most common use of a gerund is with the preposition “for,” as in “for creating,” “for building,” or “for designing.” It is also the easiest to correct. Replace with the infinitive form of the verb as in “to create,” “to build,” or “to design.”

Greek Alphabet Symbols

The Greek alphabet symbols are used throughout engineering documentation. To use the symbols, type the English equivalent in upper or lower case, highlight the letter, and go to **Format** > **Font** > **Symbol** or just change the highlighted letter to Symbol font. In FrameMaker, you can create the “µ” character by typing [**Ctrl**] [**q**] [**5**]. This is preferred over using the Symbol font

Table 3. Greek Alphabet Symbols

English Equivalent	Upper Case	Lower Case
Alpha – A	□	□
Beta – B	□	□
Gamma – G	□	□
Delta – D	□	□

English Equivalent	Upper Case	Lower Case
Epsilon – E	☐	☐
Zeta – Z	☐	☐
Eta – H	☐	☐
Theta – Q	☐	☐
Iota – I	☐	☐
Kappa – K	☐	☐
Lambda – L	☐	☐
Mu – M	☐	☐
Nu – N	☐	☐
Xi – X	☐	☐
Omicron – O	☐	☐
Pi – P	☐	☐
Rho – R	☐	☐
Sigma – S	☐	☐
Tau – T	☐	☐
Upsilon – U	☐	☐
Phi – F	☐	☐
Chi – C	☐	☐
Psi – Y	☐	☐
Omega – W	☐	☐

Guides

Each guide addresses a specific need for our customers and covers every detail they need to know when using that guide. The title of a guide does not contain the word “user,” or “user’s” nor are guides referred to as user guides in external documents. Tech Pubs provides and maintains the book template for guides through the Document Control Spec System (Spec # 001-09056 in FrameMaker).

H

H bridge

Noun. An electronic circuit that enables a voltage to be applied across a load in either direction. These circuits are often used in robotics and other applications to allow DC motors to run forward and backward. Capitalize the H regardless of context and use a non-breaking space between H and bridge.

Hard-coded

Hyphenate as a verb or an adjective.

Hardware

Avoid using. Instead, use “device” when appropriate or a more specific term (e.g., printer).

Headings

Headings, when created in a table of contents, serve as an outline for your document. Be careful not to have too many heading levels. Three heading levels are sufficient in most cases. Treat the different levels of headings in this manner:

First-level heading – Use to introduce a broad concept (for example, 1.).

Second-level heading – Use to introduce a topic within a broad concept (for example 1.1, 1.2).

Third-level heading – Use to refine a topic introduced by the second-level heading (for example, 1.1.1, 1.1.2).

Additional levels are generally not provided by standard templates, as most technical documentation does not require additional levels. Only the IROS/TRM template provides additional levels. Before creating additional heading levels in the template you are using, examine the structure of the document to see if you can reorganize it. If you use additional heading levels, make them visually distinct and clearly subordinate to higher-level headings.

See Titles.

HI-Z

High impedance. All uppercase, hyphenated.

HIGH

All uppercase when referring to a state. However, when writing to a register or a bit, use 1 or 0. It would be odd to say “write HIGH to a bit.”

HOBTO

hang-on-bus tapeout. Note the hyphens and that “tapeout” is one word. Pronounced “HOB-toe.”

Hypertext

All hypertext links, including cross references in PDF and Help documents, are Cypress hypertext blue color (RGB = 12%, 32%, 63%, or RGB bit values of 31, 82, and 162 (0x1F52A2) with no underline. HTML documents use hypertext blue text with an underline, or hypertext blue with underline on mouse over only, but are consistent within a particular hypertext collection or document type. In tables of contents and indexes, hypertext links are black with no underlines. For more information on cross references, including instructions on how to insert them in a Word document,

The active text of a hyperlink is one of the following:

- The URL of the destination. For example: For updates to PSoC Designer go to www.cypress.com/psocdesigner. Use the URL style only when the link is a memorable permanent link.
- A short phrase describing the nature of the information supplied on the page. To order PSoC development kits, visit the development kits order page. Use this style to conceal cryptic links, such as http://www.cypress.com/?rID=17612.
- If the destination is a document, use the document title or other unambiguous document identifier. For example:

  For more information, see the *Basics of PSoC® 1 Programming* application note.

  For more information about image sensor handling, see AN15229.

  A cross reference/hyperlink to a Cypress document should have the spec number or application note number for easier offline reference.

Hyphens

The hyphen’s main job is to tell readers when combinations of two or more words are a single concept. Generally, hyphenate two or more adjectives when they come before a noun and act as a single idea, and when a hyphen is needed to avoid ambiguity. See Compound Modifiers for more detailed information.

- Use a hyphen to join compound words.
- Hyphenate all compound numbers from twenty-one through ninety-nine. If the number forms a unit, for example, 24 MHz, it is not spelled out.
- Hyphenate all spelled-out fractions.
- Use a hyphen when a number and unit are used together as an adjective, for example an 8-bit register.

When capitalizing hyphenated words, the second and subsequent words are capitalized unless they are articles (see Articles), prepositions (see Prepositions), or coordinating conjunctions (and, but, or, and so on).

Do not use a hyphen with these prefixes except when the last letter of the prefix matches the first letter of the word it modifies (for example, reconfigurable but re-engineering):

anti, *auto*, *co*, *de*, *ex*, *extra*, *in*, *infra*, *intra*, *macro*, *micro*, *multi*, *non*, *over*, *post*, *pre*, *pro*, *pseudo*, *re*, *semi*, *sub*, *supra*, *un*.

If it is necessary to hyphenate a word with a prefix, the word after the prefix is not capitalized unless it is a proper noun or proper adjective.

Do not use a hyphen to indicate a range (use an en dash, see Dashes).

Most document creation software allows you to automatically hyphenate words. This feature splits words at the ends of lines, creating hard-to-read lines, and often splits words incorrectly. If you use automatic hyphenation:

- Ensure that words are only split between syllables. For example: di-vide, not div-ide.
- Use a dictionary to check for proper divisions. For example: di-vi-sion.
- Leave two or more letters at the beginning and three or more letters at the end of the word. For example: di-vision or divi-sion.
- Do not divide Cypress trademarks, products, and company names.
- Avoid divisions that form distracting or confusing words.
- Do not split acronyms, abbreviations, or numbers.

I

I^2C

The I^2C Bus is another company's trademark. Use the superscript in all places except code examples and when it appears as a label or name on a software control where it cannot be superscripted.

IDAC (Current output Digital to Analog Converter)

IC that generates programmable current sources for sensors

i.e.

Use "such as" or "that is" instead. Do not confuse with e.g., which means "for example." But if you do use i.e., a comma must always follow it. For example: The three U.S. states on the West Coast (i.e., Washington, Oregon, and California) have desirable climates.

in-circuit emulator (ICE)

Hyphenated as shown. Spell out before using ICE.

inrush (adj.)

One word. Modifies a current or current conditions.

Integrated circuits (ICs)

Always use the term IC to refer to chips produced by Cypress competitors.

International Audiences

Cypress products have an international audience. That means that some of the readers of our documents may use English as a foreign language (EFL) and many of our documents are translated into other languages. Avoid American idioms and words that have multiple conflicting meanings depending on the context, because these are difficult to translate and EFL readers might misunderstand them. This section offers guidelines on writing for an international audience.

General Guidelines

Some general guidelines to use when writing for an international audience are:

- Use clear, concise, and consistent language. Users and translators should not have to guess at your meaning.
- Use the active voice. It is less wordy and easier to understand.
- Break long sentences into two or more sentences.

- Write instructions in a positive format. Tell the reader what to do instead of what not to do.
- Use simple, easily translated words, and use them consistently.
- Avoid jargon, idioms, slang, affectation, figures of speech, localisms, humor, and cultural reference.
- Use standard and widely accepted symbols and graphics.
- Use commas only when their use increases a sentence's clarity.

Specific Guidelines

Specific guidelines to use when writing for an international audience are listed in this section and in Table 4 and Table 5.

- Type *and* or *or* instead of typing a slash (/) between words.
- Never use contractions. Always spell out cannot, is not, will not, it will, you have, do not, and so on.
- Use the English equivalent instead of Latin abbreviations or words whenever possible and if space allows.

  etc. and so on, and others

  e.g. for example

  i.e. that is, such as
- Always spell out dates. If you type 12/2/04, it means December 2, 2004 in the U.S. However, in Europe it may mean February 12, 2004.
- Be consistent. Use the same descriptive word or term for hardware, software, an interface, a function, a button, or a process every time you refer to it.
- Avoid affectation. Use simple, standard terms, and use them consistently. Table 4 is a sample list.

Word Use

Some common words that are not appropriate for an international audience, along with the preferred terms, are shown in Table 4.

Table 4. Words to Use for Translations

Do NOT Use	Use
as	Because
as opposed to	instead of
as per	according to
as well as	and
at this point in time	now
check to make sure	ensure, make sure
concerning	about
crash	corrupted (for memory)
desire	want
else	instead of, otherwise

Do NOT Use	Use
for instance	for example
hang	corrupted (for memory) becomes unresponsive stops responding
hence	therefore
if you want to	to
in order to	to
in regard to	about
like	such as
(information) on	(information) about
nowadays	today
once	after, when
pursuant to	about
refer to	see
regarding	about
shall	must or will
since (unless referring to the passage of time)	because
so	therefore
thus	therefore
till	until
whether or not	whether
wish	want

Symbols, Signs, and Characters

Try to avoid using the symbols, signs, and characters shown in this table unless you need space.

Table 5. Replace Hard-to-Translate Symbols with Text

Do NOT Use	Use
/	Type *and* or *or*. Replace “and/or” with “<this>, <that>, or both.”
&	And
#	▪ Number. The symbol is usually unnecessary. For example, ID 4336 is correct. ▪ Pound.
%	Percent
“	(Hyphen) inch. For example, type 3.5-inch diskette.
’	(Hyphen) ft. For example, type 3-ft table.

Internet

When used to describe the globally unique network of networks, the word “Internet” is capitalized as if it is a proper noun and always preceded by the definite article, “the.” When used to describe an interconnected network, it is not capitalized.

Internet of Things (IoT)

Acronym OK to use after you've introduced it

into

When referring to code that is configured into a PSoC chip or something that is integrated into PSoC, use "into" rather than "in."

I/O

Abbreviation for input/output.

IROS and Technical Reference Manual

The Internal Requirements and Objectives Specification (IROS) and Technical Reference Manual (TRM) are the two sources of technical product detail that Cypress PSoC and USB engineers use to design chips. Customers use TRMs to customize Cypress chips. The level of detail is exacting and precise with no room for error. Tech Pubs provides and maintains the book template for the IROS and TRM through the Document Control Spec System (Spec # 001-12014 in FrameMaker).

Italics

Avoid the use of italics for emphasis. Use a note if appropriate. See Note, Warning, Caution, and Danger. Use bold sparingly and only for emphasis.

Use italics for:

-  names referenced in text
- Software parameters referenced in text
- Specifying the title of books or publications
- Cross references to glossary definitions or other reference text (these are bold and italic)

J

Jargon

The language, especially the vocabulary, peculiar to a particular trade, profession, or group. Avoid using jargon, which is characterized by pretentious syntax or meaning.

When working with colleagues on a common problem, it is an immense time saver to develop a short-hand notation for referring to common concepts (jargon). However, your readers may have a different background than you do, so they may not understand the terms you use. Jargon can make a document difficult (and therefore expensive) to translate, may distract or annoy the reader, and may be a barrier to understanding the material.

When you encounter a specialized term in a document, make certain that the word is “real” and not simply made up as a way to conveniently describe something (for example, updation is not a word).

K

Kit Documentation

See Spec # 001-09059.

Always provide a common-sense name, such as the “PSoC 3 Kit” or the “PSoC 5 Kit.”

Never describe a kit only by its Cypress part number. Put the kit number in parentheses after the name.

Capitalize the word “Kit” when it is part of a product name.

L

later

Use specific cross references when appropriate. In places where specific cross references are inappropriate, use “earlier” or “later.” Do not use above and below. “Later in the tutorial, you will vary the brightness of the LED with a potentiometer.”

Links

See Cross References or Hypertext.

Lists

Numbered or bulleted lists can make a series of points easier to follow. For instance, if you have instructions that say (1) do this, (2) do that, (3) do something else, you may want to create a list.

1. Do this.
2. Do that.
3. Do something else.

Use these guidelines when creating lists:

- If a list has a defined sequence (step-by-step instructions, for example), use a numbered list.
- If a list does not need to be in sequential order, use a bulleted list.
- Place a period at the end of each item if the item is a complete sentence. In a numbered list that is a procedure, all of the items should be complete sentences, so they should end in a period. It is OK to have a list consisting of phrases and sentences. Only complete sentences get end punctuation. If a descriptive sentence follows a phrase, the preceding phrase gets end punctuation even if the sentence that follows is in the next line.
- A nested list should not go to more than three levels.
- Capitalize the first word of each item in bulleted lists. If you are defining a list of terms, capitalize the first word in the term and the first word of the definition. For example: “**M8C** – A powerful microcontroller that …”
- Introduce your list with a complete sentence and a colon. Omit the introductory sentence if the list is a procedure and follows the task section heading.
- Use parallel structure for all items in a list. Parallel structure is defined as two or more words, phrases, or clauses that are similar in length and grammatical form. Here are two ways to verify that your list has parallel structure:

  Listen to the sound when you are linking equal ideas or comparing two or more elements.

  Visualize similar elements in a list and check to see if they are in the same grammatical structure. Specifically, each item should start with a noun phrase OR each item should start with a verb. Furthermore, the verb tense should be the same. For example, do not use “verify” to start one item and “checking” to start another.

There are two punctuation guidelines to follow in lists:

- Use a complete sentence and a colon to introduce a bulleted list.

- Place a period after an item only if the item is a complete sentence.

  Do not construct a bulleted list by starting with a fragment and then completing each item by joining the fragment to the words in each item. For example, do not use this construction:

  You can buy

  - soap and deodorant at the drugstore
  - vegetables and fruit at the supermarket
  - nuts and bolts at the hardware store.

LOW

All uppercase when referring to a state.

M

macrocell array

Noun. An approach to the design and manufacture of ASICs. Essentially, it is a small step up from the otherwise similar gate array. However, rather than a prefabricated array of simple logic gates, the macrocell array is a prefabricated array of higher-level logic functions (such as flip-flops, ALU functions, and registers). Do not use as a noun (e.g., macrocell) because that has a specific meaning in the cellular industry.

Many different

Avoid this phrase. Replace with “multiple.”

MFi Component

Free PSoC Component that connects PSoC to Apple’s mobile devices instantly.

The MFi Component is Apple-certified.

Math Operators

When showing math operations in text, use the following symbols exclusively unless they are unavailable to you. Use a single space to separate operators from numbers: 1 + 3 = 4. Use nonbreaking spaces, if necessary, to prevent an inline equation from wrapping. Complex math operations are done in an equation editor and called out as Equations as specified in the template you are using.

- If an operator is unary (acts on a single value) there is no space between the operator and the value. For example: –2, +4, 4×
- Use the en dash for subtraction and negation. Do not use a hyphen. In FrameMaker, [**Ctrl**] [**q**], [**Shift**] [**p**]. The numeric value ‘three minus two’ is represented with a three, a space, an en dash, a space, and a two: 3 – 2.
- Use the × symbol for multiplication. In FrameMaker, [**Ctrl**] [**q**], [**0**]; Unicode 0x00D7. Do not use an alphabetic ‘X.’ Use a middle dot ([**Ctrl**] [**q**], [**a**]) only when forming units with multiplication. For example 10 $m \cdot s^{-1}$
- Use the multiplication sign “×” instead of “by” when numerals refer to dimensions: 3 × 5 cm box.
- Use the + symbol to represent addition. In FrameMaker [**+**], Unicode 0x002B.
- Use the ÷ to represent division. In FrameMaker, [**Ctrl**] [**q**], [**Shift**] [**v**]; Unicode 0x00F7. Do not use the solidus (/) except in tables, code examples, other space-constrained uses, and when forming units from division. For example: 10 m/s.

microcode

One word.

microcontroller

One word.

microsequencer

One word.

mixed-signal array (Do Not Use)

Do not use. Replace all occurrences of “PSoC mixed-signal array” with “PSoC, Programmable System-on-Chip.” Remember to use the superscript ® symbol if this is the first use of PSoC in a title, heading, or text.

Modifiers, Compound

For an explanation of compound modifiers, see Compound Modifiers.

motor drive

Noun. A system consisting of an electric motor and accessory parts, used to power machinery. Do not use a hyphen. When used as an adjective, see motor driving.

motor driving

Adjective. A method to motivate a motor drive. Used to modify the motivator. For example: motor driving techniques, motor driving action.

multimaster

Adjective, one word. A configuration in which you can connect multiple master devices to a single physical I^2C bus. For example: multimaster interface, multimaster arbitration.

multiplexer

After thorough research of key competitors, it is “er” not “or.”

must

The words “must,” “shall,” and “required” are used **only** in imperative sentences to indicate an absolute requirement. “Must” and “required” convey the imperative better and are preferred. Use imperatives sparingly and appropriately. For example, use the imperative if a device will not function unless the guideline is followed. Use “must not” to note prohibited behavior, but phrase the imperative positively if possible.

MUX

The abbreviation for multiplexer is acceptable on first reference. The plural is MUXes.

N

NAK

NAK is capitalized when it is used to mean a negative acknowledgement or error in the receipt of a signal or packet from one process or device to another. The past tense of NAK is NAKed.

Needed versus necessary

Often, writers use the passive voice phrase “is needed” or “is not needed.” To remove the passive voice, replace those phrases with “is necessary” or “is not necessary.” Then we do not need to worry about who or what is needy.

no connection

Denotes that a package pin has no bond wire connected to it. Abbreviated NC in datasheets. Compare to do not use.

nonvolatile

One word, do not hyphenate.

nonzero

One word, do not hyphenate.

Note, Warning, Caution, and Danger

Use the key words *Note*, *Warning*, *Caution*, and *Danger* sparingly. Always keep notes and warnings on the same page as the text that introduces them. If you are using too many notes, you need to rewrite your document and incorporate your notes into the body text.

- Use the key word **Danger** to denote that failure to avoid the flagged situation **will** result in death or serious injury. Use **Danger** very rarely, and only where appropriate.
- Use the key word **Warning** to denote that failure to avoid the flagged situation **may** result in death or serious injury.
- Use the key word **Caution** to denote that failure to avoid the flagged situation may result in system damage or data corruption. A bold warning message is usually placed inside a gray box.
- Use the key word **Note** to draw attention to important information in the text flow. Keep them succinct and relevant to the preceding paragraph. Avoid using the key word **Note** in plain text. For example, do not say, “Note that the form displays refreshed values.” If the information is important enough, use the template Note format.

Numbers

Spell out numbers zero through nine in text, and type the number for numbers 10 and higher, unless the number:

- Is part of a measurement. For example: The first three chapters are helpful. The files are *3 MB*.
- Begins a sentence. For example: *Forty* megabytes of disk space are required. Exception: In datasheets, on the summary page. OK to start with numbers.
- Is an approximation. For example: Cypress has *hundreds* of USB customers.
- Is immediately followed by another numeral. For example: The folder consists of *fifty* 300-byte files.
- Pertains to a monetary amount. For example: The project exceeds $9 million.
- Is a ratio. For example: The team won by a 2-to-1 majority.
- Spell out “one” month or “two” hours unless it has to do with a specification or characterization.
- When a sentence includes numbers less than nine and numbers greater than nine, use numbers for consistency. For example: The timer can be 4-, 8-, or 16-bit.

Use these guidelines when writing text that has to do with numbers.

- There must be a space between numbers and units of measure abbreviations. This also applies to units that are a single character. For example: The power supply must be 1.5 V.
- Use a nonbreaking space between numbers and units. This prevents the units from wrapping at the end of the line and also keeps the number and unit together when justification would otherwise change the spacing between them.
- A hyphen replaces the space if the number and units of measure act as a pair modifying something. For example: The 8-bit registers.
- When writing numbers that initiate a command or action, use single quotes (for example, Type ‘1’ then ‘0’ to complete the command).
- Use 64K, 256K, 512K, and 1M (closed up, no hyphen or space) when referring to memory size.
- Spell out fractional numbers such as two-thirds.
- When writing specification or characterization numbers that require a percent, use the word “percent” in text; use the % symbol only in figures and tables.
- Always write out the date (for example, June 23, 2006).
- To make a number plural, add an “s.” For example: The early 1920s, in twos, threes, and zeros, or several CY8C21345s.
- Use commas as a separator every three digits in large decimal numbers (more than four digits). For example: 192,100.
- Precede decimals with values of less than one with a zero to prevent the reader from overlooking the period (for example, 0.1).
- Hexadecimals use either a prefix of 0x or a suffix of a lower-case h, but they must be consistent within a document. For example: 0xFF or 4Dh.
- Binary numbers use a lower-case b suffix. For example: 0b.
- Numbers without a base prefix or suffix are decimal.

- Hex digits A–F are always upper case.
- If a string of binary or hex numbers is longer than four digits, group the digits into groups of four offset with non-breaking spaces for readability. For example: 0x0E00 F054 or 0010 1110b.
- Negative numbers take an en dash (not a hyphen).

O

obsolete

Acceptable as a verb or adjective.

obvious

Avoid. If something is truly obvious, there is no need to mention it.

off-chip, on-chip

Hyphenated.

onboard

One word.

Online Help

Or Help. Capitalize.

only

Only emphasizes the word or phrase that immediately follows it.

- I dropped only one apple.

Not

- I only dropped one apple.

opamp

Shortened form of operational amplifier. One word, no hyphen. However, if the UI has it as OpAmp, when referring to the UI element, follow the UI convention.

opcode

One word.

OR

Capitalized when used as a binary or logical operator. Examples of read-modify-write instructions include AND, OR, and XOR. The past tense of the binary or logical operation is ORed. For

example: The hardware capture signal is ORed with a software capture signal that is generated when Data Register 0 is read directly by the CPU.

overcurrent

One word, no hyphen. Never as a noun. Examples: overcurrent condition, overcurrent detector, overcurrent circuit.

P

PSoC

For PSoC x, where x is a family number, put a non-breaking space between the "PSoC" and the number. Note that the register symbol is attached to PSoC: PSoC® 4, not PSoC 4®

PSoC Creator™

Cypress PSoC 3 and PSoC 5 Integrated Design Environment (IDE)

PSoC Designer™

PSoC 1 IDE

PSoC Power Supervision Tool

Configures Component parameters over PMBus

pad-ring

Hyphenated.

Page Breaks

Manual page breaks are strongly discouraged. If necessary, use "Keep With Next" in Word to keep logical units of text together. To use "Keep With Next," position your cursor immediately before the paragraph symbol, right-click, choose "Paragraph," click the "Line and Page Breaks" tab, and check the "Keep with next" box.

Parameters

In parameters such as V_{DD} (drain voltage) or t_{RISE} (rise time), the variable (voltage = V) is followed by a text string defining the actual parameter (DD = drain voltage). This text must always be all upper case and subscripted (V_{DD}). However, usage may need to align with industry specifications (USB3, QDR-III, for example).

Parentheses

Parentheses ( ) are used in the body of the document to set off explanatory text. Avoid using parentheses in headings or titles. Do not use an 's' in parenthesis on a noun that can be either singular or plural. Use the plural form of the noun or the singular form of the noun consistently. It is understood that what applies to *many* also applies to *one*.

Passive Voice

Avoid passive voice in technical communication. See Active Voice for more information.

path name

Two words. When specifying a path name in a technical document, the path name is set in italic text.

Pb-free

Hyphenate, do not use lead-free.

percent

Use the word “percent” in text; use the % symbol only in figures and tables.

Periods

Periods (.) are used to indicate the end of a declarative or an imperative sentence. A period is omitted at the end of a sentence that is included within another sentence.

For example: The rain (I heard about it on the news) was supposed to be heavy today.

Peripheral

Do not use; use device.

Pin Names

Pin names must be all upper case letters. Do not use subscripts.

pinout

One word.

tform

Platform is an aggregate term for related parts. Other aggregate terms for parts are *family* and *architecture*.

A platform may contain multiple architectures. An architecture may contain multiple families. PSoC is a platform. The PSoC platform encompasses the PSoC 1, PSoC 3, and PSoC 5 architectures. Each of these architectures contains multiple families. A platform provides solutions to similar types of needs with differing architectures.

For example, the PSoC platform provides flexibility, integration, and programmable analog across all architectures.

plug-and-play

When used as an adjective or a noun phrase, hyphenate the phrase. Lowercase the phrase unless it begins a sentence. Examples:

USB is a plug-and-play technology

Plug-and-play design simplifies setup

When used as a verb, do not hyphenate. Example:

Customers can plug and play devices to set up systems in minutes

Always use "and" rather than an ampersand (&) in "plug-and-play." Plug & Play™ is a registered trademark of Corning Cable Systems Brands, Inc. and is a type of optical fiber cabling system.

polynomials

When showing polynomials, use superscript for the exponent.

$x^{16} = x^{12} + x^5 + 1$ not x^16 = x^12 + x^5 + 1

This does not apply to code.

power down

Two words, no hyphen.

power fail

Two words, no hyphen.

Power good

Pgood, when used as a function name; PGOOD, for a signal.

power on

Two words, no hyphen (verb, noun). Hyphenate when used as a modifier (power-on reset).

Powerline vs. power line

When referring to the Cypress Powerline Communication product, use one word.

When referring to wires, use two words (i.e., power line).

In other words, use “Powerline” as an adjective in a product name and “power line” as a noun.

p.m.

Use lowercase for designation of time. 12 p.m.

Precision

See Accuracy and Precision.

Prefixes

A prefix is a term that is placed at the beginning of a word to modify or change its meaning. Common prefixes are:

Prefix	Meaning	Example
anti	opposing, against, the opposite	anti-aircraft, antibiotic, anticlimax, Antarctic
counter	opposition, opposite direction	counteract
inter	between, among	interact, interchange
pre	before in time, place, order or importance	preview, precondition
re	Again	repaint, reappraise, reawake
sub	under, subordinate, constituent	submarine, subset, subcomponent
non	Not	nonrefundable, nonvolatile

While you may sometimes need to use a hyphen with a prefix, more often you do not. For more information about hyphens see Hyphens.

Prepositions

With, *at*, *on*, *from*, and *about* are examples of prepositions. They tie a noun (or its equivalent) to the rest of a sentence. Avoid ending sentences with prepositions. In titles, which typically initial-cap each word, prepositions that are four letters or fewer are lowercase: “on,” “at,” “with” but “About”

Procedures

Procedures are numbered instructions for the user. When writing procedures, write the action in the numbered paragraph and, if applicable, insert all explanatory text in a paragraph that follows. Do not put more than one action in each numbered step.

Here are some conventions for how certain text is treated in procedures:

1. When referring to an element of the GUI, use bold text. Make sure that the text appears exactly as it does in the GUI (same spelling, capitalization, and so on).
2. Use bold for commands, menu paths, and icon names in procedures.
   - ❑ For example: Click the **File** icon and then click **Open**.
3. Use bold for keyboard commands in procedures.
   - ❑ For example: Press **Enter** or **Ctrl C**.
4. Separate each menu command with a non-breaking space, an open angle, and a space.
   - ❑ For example: Start > All Programs > Cypress.

   Use bold for command words only, not for the punctuation. Use bold only if the command words are part of a sentence. If the procedure follows a colon, don't use bold.
5. Use the directive "Click xxxx," not "Click on xxxx."

pull-down, pull-up

Pull down, pull up (verb); pull-down, pull-up (noun or adjective).

Q

quad band

Two words. This telecommunications term refers to a device, especially a mobile phone, that supports multiple radio frequency bands.

quarter, annual

Abbreviate like this: Q1 2013. Show Q first. Use a space after the quarter number. Useall four digits for the year.

Question Marks

Question marks are not typically used in technical writing.

Quotation Marks

Quotation marks can be double (“ “) or single (‘ ’) marks.

Double Quotes – When quotes are used at the end of a sentence, the quotation mark goes after the period. If quotation marks are next to a comma, the quotation mark goes after the comma. For example: The policeman said “Stay in your car.” He also said “Hand me your driver’s license,” to start the ticketing process. There is a commonly used exception in technical writing that if you are using the quotes to specify text that a user must type verbatim, then the text in the quotes needs to be verbatim, overriding any other rule. The same exception applies to delimiters for a string.

Single Quotes – When writing numbers that the user must type, use single quotes. If the single quote is at the end of a sentence, the period goes outside the quote. For example: Type a value for this parameter between ‘0’ and ‘255’.

R

Range of Numbers

When specifying a range of numbers, use an en dash, not a hyphen, between the numbers. Do not separate the en dash from the numbers with spaces. For example: 3.3–5 V.

read out, readout

Use read out (verb) or readout (noun) but never read-out.

read/write (R/W)

Use a slash, not a hyphen.

read-only (RO)

Hyphenate.

real-time, real time

Hyphenate as an adjective (real-time clock), two words as an adverb (communicate in real time).

recommended

Use the word “should” or the word “recommended” in imperatives when it is strongly suggested but not required. Use “should not” or “not recommended” for discouraged but not prohibited actions, but phrase the imperative positively if possible. Note: This entry does not apply to internal formal requirement specification language.

reconfigure, reconfiguration

One word, no hyphen.

re-create vs. recreate

Hyphenate when the meaning is “to make again”; one word when the meaning is “to take part in a recreational activity.”

redesign

One word, no hyphen.

Repetition and Redundancy

Limit repetition and redundancy.

- Avoid doubleheaders such as “clear and simple,” “bound and determined,” “each and every,” and “few and far between.”
- Avoid clichés such as “blazing speed.”
- Avoid redundancy such as: “The FastEdge family of chips takes a semicustom approach, customizing a single base die with metal masks.” and “USB bus.” The repetition of the word ‘custom’ is undesirable in the first example and the ‘B’ in USB stands for the word ‘bus’ in the second example.
- Avoid unnecessary words such as “active” consideration or “true” dual port (there is no false dual port).

required

The words “must” and “required” are used **only** in imperatives to indicate an absolute requirement. Use imperatives sparingly and appropriately. For example, use the imperative if a device will not function unless the guideline is followed. Use “must not” to note prohibited behavior, but phrase the imperative positively if at all possible. Reserve the use of “shall” for formal specification writing.

restore

One word, no hyphen.

Reuse content

Whenever possible, use parallel construction to say similar things. Content reuse reduces translation cost dramatically. It also makes it easier for your reader to focus on the information rather than interpreting the prose. This technique works well for descriptions of similar objects (for example, fields or functions) and procedural tasks.

right-click

Hyphenated.

runtime

 word.

S

Screen Captures

When using screen captures in a document, use the guidelines and instructions that follow.

- Unless the screen capture is part of a larger graphic, it must have a major caption.
- Do not crop in a way that partially shows objects. For example, do not display half of an icon or scroll bar.
- Make sure text is readable so that viewers understand what they are looking at. All screen shots must be readable. Any exceptions must be justified and approved by the BU.
- When all or part of a screen capture is white and matches the color of the slide on which it appears, manually draw a border around the screen capture.
- Depending on the monitor and setup of the computer, screen captures may appear different in color. Develop all screen captures for your presentation on the same computer and consistently use the same Windows desktop background settings on that computer.

  The following are recommended settings for doing screen captures using a Windows computer:
- Right-click on desktop --> Personalize
- Select Windows 7 under Aero Themes
- At the bottom, set window color to "Frost" and "Disable Transparency

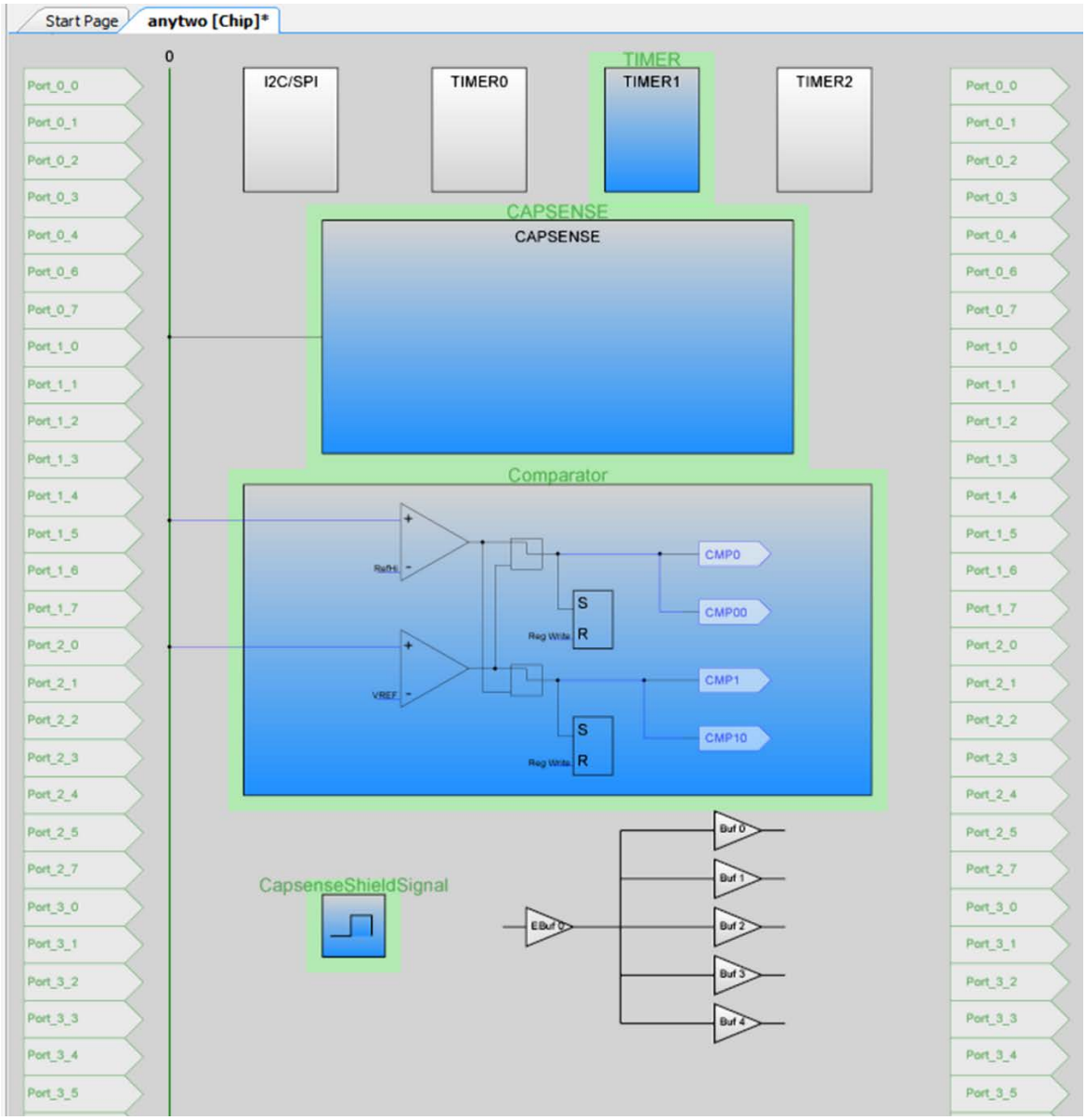
Recommended software: Snagit (which costs about $50) or Skitch

Instructions when using Snagit

- Use the crosshairs to capture the image you want.
- Open the saved image in Snagit Editor
- Resize the image to the required dots per inch (dpi) of 200.
- Use the enhancement tools, specifically the one that “sharpens” the image.
- Save the image in the .png format.

For more detailed instructions on using Snagit, watch this video:
https://www.youtube.com/watch?v=r8yowsJs8bI

Here’s a screen shot captured with Snagit in less than 5 minutes:



Instructions when using Skitch:

- Set the resolution of your monitor to 1920 x 1650.
- Click the “snap” button on the right.
- Use the crosshairs to zoom in on the area you want to capture. You will maximize the size of your image and achieve higher resolution.
- Ensure that Creator schematics are well-annotated and that the title text is large enough.

For more detailed instructions on using Skitch, go to:
http://www.wikihow.com/Take-a-Screenshot-With-Skitch

For an overview and a basic set of instructions on screen capture, double-click the PDF below:

Screen_Capture_Tool
s_and_Techniques.pdf

For PSoC Creator Schematics:

- Select the schematic in PSoC Creator and copy it to the clipboard (using **Ctrl+C** or right-click and select **Copy**).
- Paste the clipboard contents into PowerPoint: Select **Paste Special** from the **Paste** menu. Select the **Picture (Windows Metafile)** option in the **Paste Special** dialog box.
- Resize the image to fit the desired space.

See GUL-336 for more information about this method.

See also Graphics Standards.

Semicolons

Semicolons (;) are used in a variety of ways to enhance sentence structure.

- Semicolons bring two closely related sentences together without the use of the word *and*.
  - For example:The abstract painting was removed from the bedroom; in its place was hung a landscape.
- The following words are considered adverbs, rather than conjunctions; therefore, they must be preceded by a semicolon when used in a compound sentence: *then, however, thus, hence, indeed, accordingly, besides, therefore*.
  - For example:The pinouts were changed; therefore, the drawings need to be revised.
- When items in a series are long and complex or have internal punctuation, they must be separated by semicolons.
  - For example:The membership of BPW International is as follows: England, 342; Germany, 561; Italy, 211; the United States, 638.

set

Set is an operation that leaves a bit at logic state one, clear is a bitwise operation that leaves a bit at logic state zero, and toggle means to switch a bit to the opposite state. It is common to say, “set the bit,” “clear the bit,” and “toggle the bit.”

However, as we expand our audience we are increasingly seeing people whose background does not include bit manipulation and who may be unaware of these meanings. Use “set the bit to one” and “clear the bit to zero” at least on the first occurrence of the terms in a chapter or section.

Set also refers to set theory, as used with Venn diagrams, block codes, CRC codes, and so on. For example, “These glasses come in a set of eight.”

set up, setup

Use set up (verb) or setup (noun) but never set-up.

shall

The use of “shall” is discouraged. However, if the text is from an industry standard (such as ASIL specs), leave as is.

The words “must,” “shall,” and “required” are used **only** in imperative sentences to indicate an absolute requirement. “Must” and “required” convey the imperative better and are preferred. Use imperatives sparingly and appropriately. For example, use the imperative if a device will not function unless the guideline is followed. Use “must not” to note prohibited behavior, but phrase the imperative positively if possible.

should

Use the word “should” or the word “recommended” in imperative statements when it is a strongly suggested but not required guideline. Use “should not” or “not recommended” for discouraged but not prohibited actions, but phrase the imperative positively if possible.

shut down/shutdown

Two words as a verb; otherwise, one word.

Significant Digits, Figures

See Accuracy and Precision.

SLIM

Two Cypress trademarks:

Single-Layer Independent Multi-Touch

Simultaneous Link to Independent Multimedia

smartphone

One word.

SmartSense™ Auto-tuning

Cypress’s solution for capacitive sensing of buttons and sliders

Industry’s No. 1 solution in sales by 4x over No. 2

Use ™ symbol on first reference to SmartSense

Software Documentation

When documenting software that runs on Microsoft operating systems, follow conventions in the *Cypress Style Guide* (this guide) first; for items for which there is no clear guidance in this guide, follow the *Microsoft Manual of Style for Technical Publications*. See Procedures and User Interface for some conventions used in software documentation.

SPI

The acronym for Serial Peripheral Interface takes “an” (not “a”) as an indefinite article.

Split Infinitives

A split infinitive is a verb in its infinitive form (for example, to go, to do, to be, and so on) that has an adverb between the “to” and the verb (for example, to quickly go, to bravely do, and so on). In Latin, the infinitive was a single word and could not be split. This led to an erroneous proscription of splitting the infinitive in English. However, because there are people who believe that it is incorrect to split an infinitive, they see the construction as a mistake and the presence of even an imagined mistake takes away from the message. In general, avoid split infinitives for clear writing.

standalone

One word, no hyphen.

startup

Use start up (verb) or startup (noun) but never start-up. See bootloader and bootup for the difference between these two similar but not synonymous terms.

States

All-uppercase these: ON, OFF, LOW, HIGH, HI-Z.

Initial cap others, such as Sleep or Awake.

sticky

Adjective. Of or relating to an item of software or hardware, such as an onscreen graphic or mouse button, that remains active for a brief time after being touched: sticky keys; a sticky menu.

Do not use to describe content stored in a memory through a power-on/power-off cycle. Use ‘stays in memory’ instead.

subdirectory

One word, no hyphen.

subscript modifiers

Use non-breaking spaces in subscript modifiers (e.g., $V_{B\ (FULL\ LOAD)}$).

subsystem

 word, no hyphen.

Syntax Usage

In headings, text, and figures, use the same case – upper or lower – for commands (for example, CSD_ScanSensor, diff) or file names (for example, *boot.asm*) as they are to be typed by the user.

For example, UNIX commands are typed with all lower-case letters. Therefore, they are represented as lower case.

T

Table of Contents

The title for the table of contents in all Cypress publications is “Contents.” The granularity of the table of contents is set by the document author and should be appropriate for the scope and size of the work. There are no lists of figures or tables in product documents. The number of levels should not exceed three.

Table Titles

The table title appears above the table and left-justified. The table title (caption) also must appear on the same page as the header row of the table.

Even if the table title is a sentence, the convention of capitalizing the first letter of all nouns, pronouns, adjectives, verbs, adverbs, and conjunctions is used without a period at the end.

Tables

Tables are a good way to format information so it is easy to understand and use quickly. Use tables to organize and display reference data that might be more obscure and difficult to identify in body text. Generally, use tables to present information introduced in previous text. Keep table formatting simple so it is easier to reformat or copy into another type of document. Table formatting should not distract the user.

- Number tables for easy reference.
- If table headings must be rotated due to space constraints, rotate the headers counterclockwise.

See also folder.

See Footnotes for information about table footnotes.

tapeout

One word, no hyphen.

Tense

Do not mix tenses in the same sentence or paragraph.

test bench

the

“The” is a definite article. A definite article is a word that restricts or particularizes a noun. For instance, *"The overall process for submission of new and updated EROS documents requires…".*

For more information, see Articles.

time base

Noun. A fixed frequency or a fixed period of time used as a comparison against which other frequencies or timed events are calculated.

timeout

One word, no hyphen.

Timing Diagrams

See Graphics Standards.

Titles

In headings and titles, capitalize all nouns, pronouns, adjectives, verbs, adverbs, and conjunctions (if, because, as, that). Do not capitalize articles (a, an, the), coordinating conjunctions (and, but, or, for, nor) or prepositions of three or fewer letters unless they are the first or last word in the heading or title.

touchpad

One word. Also known as “trackpad.”

touchscreen

One word, no hyphen.

tradeoff

Use tradeoff (noun) and trade off (verb), never trade-off.

Trademarks

Cypress is constantly creating and updating its trademarks. Check with Corporate Communications and the author to verify whether the term is already trademarked or should be trademarked. Corporate Communications has a trademark application form from Cypress Legal that the author needs to fill out for every desired variation of the trademark. Trademarks and their symbols are used as follows:

- Insert the ™ or ® symbol, as appropriate, after any trademarked Cypress product name or another company’s product name on the first occurrence in the Table of Contents, in headlines, **and** on the first occurrence in text.
- Make sure there is a list of attributed trademarks in the document. For instance, “PSoC is a registered trademark of Cypress Semiconductor Corp. All other trademarks are the property of

their respective owners.” In some documents, this list comes at the end of the document (datasheets, app notes); in some, the list is on the back of the cover page (IROSes, TRMs).

- Always use the proper trademark symbol: ® if the trademark is registered, ™ for unregistered marks. Superscript the registered trademark symbol if possible. If the proper symbol is not available, use parentheses: (TM) or (R).
- Use trademark names as proper adjectives that modify a noun.
- Always use the trademark in its proper form. Where the trademark contains two words, make sure you leave a space between the words or join them in the proper manner for example “West Bridge” is not used as “WestBridge” and “HOTLink” is not used as “HOT Link.”
- Avoid splitting a two-word trademark between lines of text. Use a nonbreaking space.
- Do not use trademark names in the possessive form. For example, write the PSoC Designer Debugger rather than PSoC Designer’s Debugger.
- Do not join a trademark to symbols or numbers, either as one word or with a hyphen, unless the actual trademark is so joined.
- Do not add an “s” to make a trademark plual (e.g., use PSoC devices, not PSoCs).

Other Companies’ Trademarks

Always check for proper use of other companies’ trademarks on their websites. If you do not know whether to place a ™ or ® after these names, always make certain that the sentence: “All other trademarks are the property of their respective owners.” appears on the Copyright page.

Locating Cypress Trademarks

To locate Cypress trademarks, go to the Terms & Conditions page on cypress.com.

More details on proper use of Cypress trademarks can be found at www.cypress.com/brand.

trimmable

Adjective. Used as a modifier of a hardware or software noun and indicates the ability to reduce the capacity or use. The ability to be trimmed, the ability to remove excess, unwanted, or unused parts.

tristate

One word, not hyphenated.

U

ultra low/ultra-low

Two words as an adverb/hyphenate as an adjective.

U.S.

Always abbreviate the United States of America as U.S. and include periods after each letter.

USB Device

Always capitalize.

USB Host

Always capitalize.

USB speeds

From fastest to slowest:

SuperSpeed

Hi-Speed

Low-Speed

USB-to-UART Bridge Controller

Always hyphenate.

Underlines

Do not use underlines for emphasis.

usage

The nouns *usage* and *use* are related and sometimes overlap in their meaning.

Usage usually refers to established practice or custom, or habits of use. For instance, power usage is the power an item uses regularly over time. *Usage* is also commonly used in reference to language practices: “English usage is divided in the pronunciation of aunt.”

Use refers to the act of using or employing (something): “She put her extra money to good use.” *Use* is preferable to *usage* when the meaning relates broadly to employment or usefulness.

user guide

These are called “guides” at Cypress. The title of a guide does not contain the word “user,” or “user’s,” nor are guides referred to as “user guides” in external documents. Tech Pubs provides and maintains the book template for guides through the Document Control Spec System (Spec # 001-09056 in FrameMaker).

User Interface

Capitalize the user interface (UI) names of buttons, fields, menus, menu items, tabs, and windows within the product (for example, File menu, Resources tab) as they appear in the UI. Use bold type to format these items. Do not enclose these names in quotation marks or italicize them.

In text, use lower case (no initial capitalization) for the terms *form*, *button*, *field*, *menu*, *window*, *list*, and *dialog box*.

user module

Only capitalized when used as part of the name of a specific user module, for example: “The CapSense Sigma Delta User Module uses a sigma delta modulator to detect and quantify capacitance changes. Other CapSense user modules use other methods.”

User modules are used in PSoC Designer. See Component for the PSoC Creator counterpart.

User Module Datasheets

User Module datasheets are a significant part of the PSoC Designer product and are different from device datasheets. They provide detailed information for customers as they work on their chip and software designs and are incorporated into the PSoC Designer GUI. Developing a new user module datasheet involves working with an XML editor to produce a Darwin information typing architecture (DITA) compliant document that validates to a specialized document type definition (DTD). DITA is an open standard developed by IBM. The build system uses extensible stylesheet language transformations (XSLT) to create the HTML that PSoC Designer displays. Source files for PSoC Designer builds are stored in specific branches of a ClearCase repository. The template for these datasheets is 001-13103.

utilize

The word ‘utilize’ means, “to put to full and practical use.” It is often derided as a three-syllable pretentious synonym for ‘use.’ Use this word when talking about making efficient or full use of device resources. If you can substitute the word ‘use’ and not change the meaning of the sentence, do so.

V

versus

Not vs or vs., even in headings and titles.

vice versa

No hyphen.

virtual COM port

All-uppercase COM.

W

wake-on-approach

Hyphenate

wake up, wakeup

Use wake up (verb) or wakeup (noun) but never wake-up.

Warning

Use the key word **Warning** to denote that failure to avoid the flagged situation **may** result in death or serious injury. See Note, Warning, Caution, and Danger.

watchdog

Adjective, one word,. Never watchdog by itself. Never use hyphen. Examples: watchdog timer, watchdog action.

waveform

One word, no hyphen.

we

Do not use the pronoun *we* in technical documentation. Type *you* if you are referring to your audience; otherwise, rewrite the sentence.

For example, instead of telling the user:

> We recommend that you back up your files after every session.

Tell the user:

> Back up your files after every session.

web

Not capitalized except in the phrase, “World Wide Web,” where it is part of a proper noun.

webpage

One word (per IEEE)

website

One word, no space. Not capitalized.

wirebond, wire bond

wire bonding (noun). Sometimes used in gerund form. Try to avoid this use if possible. Suggested alternative – the wire bond process.

wire bond (adjective) Sometimes used in adjective form to modify objects used in the action (e.g., wire bond pads, wire bond process).

Word Use

Some words are more readily understandable than others, especially for an international audience. The table below helps you choose the right word.

Do NOT Use	Use
As	because
as opposed to	instead of
as per	according to
as well as	and
at this point in time	now
check to make sure	ensure, make sure
concerning	about
crash	corrupted (for memory)
Desire	want
Else	instead of, otherwise
for instance	for example
Hang	corrupted (for memory)
Hence	Therefore
if you want to	to
in order to	To
in regard to	About
Like	such as
(information) on	(information) about
nowadays	Today
once	after, when
pursuant to	About
refer to	See
regarding	about
shall	must or will
since (unless referring to the passage of time)	because

Do NOT Use	Use
So	therefore
Thus	therefore
till	until
whether or not	whether
wish	want

writeable

Not writable.

writes to memory

Use “writes to memory” rather than “memory writes.”

X

XOR

Exclusive OR. Capitalized when used as a binary or logical operator. Examples of read-modify-write instructions include AND, OR, and XOR. The past tense of the binary or logical operation is XORed. For example: The Mod bit is XORed with the switched capacitor block sign bit (ASign in ASCxxCR0) to provide dynamic control of that bit.

Revision History

Table 6. Cypress Style Guide Revision History

Revision/Date	Origin of Change	Description
July 8, 2004	SFV	First release of the Style Guide for Cypress MicroSystems. Includes Overview, Word Usage, Abbreviations and Acronyms, FrameMaker Helpful Hints, and two template Appendixes.
August 27, 2004	SFV	Continued adding information to existing chapters. Added the Technical Style, Writing Mechanics, Formatting Styles, Index Guidelines, and PDF Creation chapters.
September 17, 2004	SFV	Added Editing Symbols chapter.
October 21, 2004	SFV	Incorporated edits from Cypress MicroSystems feedback. First “official” release. Added Graphics chapter.
June 9, 2005	SFV	Changed this document to reflect changes made for a Cypress style guide and reorganized document, added new templates to appendixes including online help, and made minor changes to text. Added watermarks and template instructions in FrameMaker FAQ chapter.
Version 1.0 May 30, 2006	SFV	First official release of this style guide for Cypress CCD Technical Publications Group.
001-08565 Rev. ** June 20, 2006	SFV	Released into Doc Control. This version was a joint effort between the CCD Tech Pubs and Cypress Marcom.
001-08565 Rev. *A January 9, 2007	SFV	Release for edit to Cypress Technical Publications group and all Cypress authors, along with final approval by executive staff.
Rev. *B June 22, 2007	SFV	Added more acronyms, Appendix E. Data Sheet Template and its index markers, corrected the definition of KB, changed lead-free to Pb-free, and added abbreviations for electrical specifications in data sheets.
Rev *C May 19, 2009	FSU	Changed the title to “Cypress Style Guide.” Stripped all information particular to specific Technical Publications department templates. Template specific information is stored in the template itself. Changed the format from a subject oriented guide to alphabetical to make it more usable as a reference. Changed the past tense use of ACK on page 39, AND on page 41, NAK on page 79, OR on page 82, and XOR on page 107. Added a new entry on Accuracy and Precision on page 39. Altered the examples in the entry on antennas The plural form of antenna Anthropomorphize Knows, believes, understands, sees, considers … all of these words belong to creatures that think. Try to avoid applying these verbs to code, devices, networks, protocols, boards, or any other inanimate object or intellectual property. Only developers and designers consider or know

Table 6. Cypress Style Guide Revision History

Revision/Date	Origin of Change	Description
		something. This is for translation, but also for cultural reasons. Many of these words are NEVER applied to things and, therefore, it is difficult for your reader to comprehend how or why you would do so. Apostrophes on page 41. Made “back up,” boot up,” “break even,” and “break point” more consistent with each other. Added an entry on use of Boilerplate Items 1. In cross-references, use “For more information, see <publication or URL>” Bold on page 45. Changed the entry on Capitalization on page 47. Added key words CapSense, Cascadable, Caution, Danger, Warning. Added new sections on clear on page 48 and set on page 94. Clarified the use of Company Names on page 50. Added do not use on page 58. Clarified the rules on Emphasis on page 59. Changed the style on the word ‘flash’ to down case, since it has not been a trademark for nearly twenty years. Added rules for HIGH All uppercase when referring to a state. However, when writing to a register or a bit, use 1 or 0. It would be odd to say “write HIGH to a bit.” HOBTO hang-on-bus tapeout. Note the hyphens and that “tapeout” is one word. Pronounced “HOB-toe.” Hypertext on page 65. Clarified the rules on Hyphens on page 66. Changed IO to I/O on page 71. Added an entry on Jargon on page 72. Added new key words for imperatives must, read/write (R/W) Use a slash, not a hyphen. Read-only (RO) Real-time, real time Added needed versus necessary Added an entry deprecating the use of mixed-signal array (Do Not Use) on page 77. Added an entry deprecating utilize on page 102 as a synonym for use.
Rev *D May 19, 2010	VED	Plumped up Index. Revised the Numbers on page 80 to be compliant with IEEE standards. Added a standard on folder. Added architecture on page 42, F-RAM Hyphenate Cypress trademark. family on page 61, and platform on page 85. Added some explanation to bootloader One word. bootup on page 45. Added an entry on Component on page 50. Added an entry on data on page 56, and de-skew (hyphenate for clarity Clarified the rules regarding file and path names. Clarified the entry on macrocell array.

Table 6. Cypress Style Guide Revision History

Revision/Date	Origin of Change	Description
		Many different (avoid this phrase) Added spelling rules for obsolete Acceptable as a verb or adjective. obvious Avoid. If something is truly obvious, there is no need to mention it. off-chip, on-chip on page 82. Added entries for percent on page 85, power down on page 86 Added entries on set up, setup on page 95, startup on page 96, States All-uppercase these: ON, OFF, LOW, HIGH, HI-Z. Initial cap others, such as Sleep or Awake. sticky Adjective. Of or relating to an item of software or hardware, such as an onscreen graphic or mouse button, that remains active for a brief time after being touched: sticky keys; a sticky menu. Do not use to describe content stored in a memory through a power-on/power-off cycle. Use ‘stays in memory’ instead. subdirectory on page 96, and subscript modifiers Use non-breaking spaces in subscript modifiers (e.g., VB (FULL LOAD)). subsystem on page 97. Clarified when the *Microsoft Manual of Style for Technical Publications* is used as a standard reference. See SLIM Two Cypress trademarks: Single-Layer Independent Multi-Touch Simultaneous Link to Independent Multimedia SmartSense Auto-tuning Cypress’s solution for capacitive sensing of buttons and sliders Industry’s No. 1 solution in sales by 4x over No. 2 Software Documentation When documenting software that runs on Microsoft operating systems, follow conventions in the Cypress Style Guide (this guide) first; for items for which there is no clear guidance in this guide, follow the Microsoft Manual of Style for Technical Publications. See Procedures and User Interface for some conventions used in software documentation. Added an entry on versus Not vs or vs., even in headings and titles. vice versa No hyphen. virtual COM port on page 100.Added an entry on wake-on-approach Hyphenate wake up, wakeup on page 104. Changed trimmable Adjective. Used as a modifier of a hardware or software noun and

Table 6. Cypress Style Guide Revision History

Revision/Date	Origin of Change	Description
		indicates the ability to reduce the capacity or use. The ability to be trimmed, the ability to remove excess, unwanted, or unused parts. tristate on page 96 to one word without a hyphen. New Graphics Standards on page 23 consolidates a group of entries that used to be listed separately, and adds new sections on Photographs on page 29 and Timing Diagrams on page 30.
Rev *E August 31, 2010	DSG	Reformatted document in MS Word for easier editing. Added Common Acronyms and Abbreviations and When to Spell Them Out on page 11. Added Graphs and Charts on page 28. Added Visio and FrameMaker settings in Color on page 28.
Rev *F September 30, 2010	DSG	Combined Abbreviations, Acronyms, and Units of Measurement lists. Expanded list.

Table 6. Cypress Style Guide Revision History

Revision/Date	Origin of Change	Description
Rev. *G July 1, 2011	DSG	Expanded Common Acronyms and Abbreviations and When to Spell Them Out on page 11. Added Peripheral Do not use; use device. Pin Names on page 85. Added HI-Z on page 65. Added usage on page 101 Corrected capitalization rules in Hyphens on page 66. Added Acronyms Do not define an acronym in a heading. If this is the first use of the term, spell it out. If the acronym has been previously defined in the document, use the acronym unless for stylistic reasons you believe that spelling out the term improves clarity or that the reader will encounter the text for the first time (e.g., jumping around the document for reference). EXCEPTIONS: Commonly used acronyms that are central to the document do not require a spellout in headings. Examples include CPU, I2C, UART, ADC, and MCU. In Cypress datasheets, acronym tables are inserted at the beginning of the document. See also datasheet. active LOW on page 39. Added binary digit (bit on page 44 and Built-in (adj.) Always hyphenate. Means to form a permanent or essential element or quality. Never inbuilt or builtin. bypass One word as a verb or an adjective. byte on page 46. Added double-click on page 58 and Reuse content Whenever possible, use parallel construction to say similar things. Content reuse reduces translation cost dramatically. It also makes it easier for your reader to focus on the information rather than interpreting the prose. This technique works well for descriptions of similar objects (for example, fields or functions) and procedural tasks. right-click on page 91. Added Math Operators Added parameter paragraph to Acronyms on page 11. Added conventions to Procedures on page 87. Added Component. Added Component Configuration Tools Updated Parameters on page 84. Updated Trademarks on page 99.

Table 6. Cypress Style Guide Revision History

Revision/Date	Origin of Change	Description
Rev *H	GMRL	Created a new section, called Frequently Used Sections on page 11. Updated Acronyms Do not define an acronym in a heading. If this is the first use of the term, spell it out. If the acronym has been previously defined in the document, use the acronym unless for stylistic reasons you believe that spelling out the term improves clarity or that the reader will encounter the text for the first time (e.g., jumping around the document for reference). EXCEPTIONS: Commonly used acronyms that are central to the document do not require a spellout in headings. Examples include CPU, I2C, UART, ADC, and MCU. In Cypress datasheets, acronym tables are inserted at the beginning of the document. See also datasheet. active LOW on page 37. Updated architecture on page 39. Added Diagrams on page 52. Updated Accuracy and Precision on page 37. Updated or added these entries under Acronyms and Abbreviations starting on page 11: CAM, IDE, ITO, LDO, MPEG, PET, ppm, SROM, SPIM, SPIS, SSOP, TSSOP. Updated antennas The plural form of antenna Anthropomorphize Knows, believes, understands, sees, considers … all of these words belong to creatures that think. Try to avoid applying these verbs to code, devices, networks, protocols, boards, or any other inanimate object or intellectual property. Only developers and designers consider or know something. This is for translation, but also for cultural reasons. Many of these words are NEVER applied to things and, therefore, it is difficult for your reader to comprehend how or why you would do so. Apostrophes on page 39. Updated binary digit (bit) on page 41. Updated Brackets on page 42. Updated clear on page 44. Updated Colons on page 44. Updated Component on page 47. Updated continued on page 48. Updated Cortex®-M0 (see also ARM®) ARM® [with the registered trademark symbol] must always be used in conjunction with mentions of its product brands, such as "Cortex" (as such): ARM® Cortex®-M0 ARM® Cortex®-A15 processor Please check each ARM brand in a presentation on the ARM website to determine whether the product brand is an (R) or a (TM). Do not accept prior usage in vaulted content as verification. Please note that what ARM wants to protect is the *name* of the product (Cortex), not the *type* of Cortex (M0) More information is available on the web at: http://www.arm.com/about/trademarks/ http://www.arm.com/about/trademarks/guidelines/index.php http://www.arm.com/about/trademarks/arm-trademark-list/index.php http://www.arm.com/about/trademarks/arm-trademark-list/Cortex-trademark.php Cross References on page 49 to include instructions on inserting one. Updated Device Datasheets on page 52. Under Flow Charts on page 26, replaced Figure 2. Flow Chart Example.
		Updated must on page 71. Updated Page Breaks on page 76.

Table 6. Cypress Style Guide Revision History

Revision/Date	Origin of Change	Description
Rev. *I Dec. 27, 2012	GMRL	Under Graphics Standards on page 22, updated Graphs and Charts, Photographs, Screen Captures, and Timing Diagrams. Updated IDAC (Current output Digital to Analog Converter) IC that generates programmable current sources for sensors i.e. on page 62. Updated on page 70. In Dashes, added instructions on how to create an en dash in Word or PowerPoint. Added drag-and-drop. In Photographs, added minimum pixel requirements. Added easy to use Added legibility comment to Graphs and Charts Added inrush (adj.) Added into Expanded Kit Documentation entry. Added Peripheral Added plug-and-play Replaced “Powerline” entry with Powerline vs. power line Added PSoC Added re-create vs. recreate Hyphenate when the meaning is “to make again”; one word when the meaning is “to take part in a recreational activity.” redesign Expanded Screen Captures Added ultra low/ultra-low Two words as an adverb/hyphenate as an adjective. U.S. Added USB Device Added USB Host Added USB speeds From fastest to slowest: SuperSpeed Hi-Speed Low-Speed USB-to-UART Bridge Controller Added writes to memory Added CapSense Added Component Uppercase Component when it refers to a collection of files, such as a symbol, schematics, application programming interfaces (APIs), and documentation that defines functionality within the PSoC device. Examples of components include a timer, a counter, and a mux. A component name is capitalized either when used as part of the name of a specific component or when referring to a PSoC Component. The next two sentences are examples of both scenarios: “The CapSense Sigma Delta Component uses a sigma delta modulator to detect and quantify capacitance changes. Other Components use other methods.” Components are used in PSoC Creator. See user module for the PSoC Designer counterpart. Component Configuration Tools Added Current/Voltage Source for Sensors Added IDAC (Current output Digital to Analog Converter)

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Rev. *I Dec. 27, 2012	GMRL	Added PSoC Creator Added PSoC Designer Added PSoC Power Supervision Tool Added SLIM Two Cypress trademarks: Single-Layer Independent Multi-Touch Simultaneous Link to Independent Multimedia smartphone One word. SmartSense™ Auto-tuning Added Built-in (adj.) Expanded States entry to include ON and OFF Added subscript modifiers Expanded Numbers entry with guidance on negative numbers Added motor drive Added motor driving Expanded Procedures entry with > standard for menu commands. Added Boilerplate Items Added H bridge Added overcurrent Expanded watchdog Added sticky Added trimmable Added macrocell array Added cascadable Added FSK, MOSFET and DALI to Common Acronyms and Abbreviations and When to Spell Them Out Added inrush (adj.) Added wirebond, wire bond Added time base Added gerunds Added few, many, several, some Added ARM® (see also Cortex®-M0) ARM® [with the registered trademark symbol] must always be used in conjunction with mentions of its product brands, such as "Cortex" (as such): ARM® Cortex®-M0 ARM® Cortex®-A15 processor Please check each ARM brand in a presentation on the ARM website to determine whether the product brand is an (R) or a (TM). Do not accept prior usage in vaulted content as verification. Please note that what ARM wants to protect is the *name* of the product (Cortex), not the *type* of Cortex (M0) More information is available on the web at: http://www.arm.com/about/trademarks/ http://www.arm.com/about/trademarks/guidelines/index.php http://www.arm.com/about/trademarks/arm-trademark-list/index.php http://www.arm.com/about/trademarks/arm-trademark-list/Cortex-trademark.php around Expanded Figures entry Added definitions

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Rev. *J July 15, 2013	GMRL	Added Cortex®-M0 entry Revised Component entry to note that the word should be uppercased in all uses when referring to PSoC. Added test bench (two words). Added HIGH All uppercase when referring to a state. However, when writing to a register or a bit, use 1 or 0. It would be odd to say “write HIGH to a bit.” HOBTO entry.
Rev. *K Jan. 3, 2014	GMRL	Added the following entries: Under Acronyms: CDC, CML, FIT, FET, GbE, HCSL, PCIe, QSPI, RTC, SAN, SLM, and SRM. Also in Acronyms: Deleted the hyphen in most-significant bit (MSb), most-significant byte (MSB), mass-storage class (MSC), and pulse-width modulator (PWM) Added the following Units of Measure: fs, f_{max}, Gbps, Ku, rpm Added these entries: auto-tuning, Blu-ray, bootloader, cellphone, data path, de-skew, F-RAM, obsolete, power fail, quarter/annual, shut down/shutdown, ultra low/ultra-low, vice versa, virtual COM port, wake-on-approach, webpage. Edited these entries: Bold: Use bold but not brackets for keyboard commands. GPIF: General Programmable Interface, CY trademark (under Acronyms section) Prepositions: Describe casing in titles. Procedures: .Use bold only if the command words are part of a sentence. If the procedure follows a colon, don't use bold. Use the directive "Click xxxx," not "Click on xxxx." States: Clarified all-uppercase versus initial cap. In addition, repaired broken hyperlinks throughout
Rev. *L March 31, 2014	GMRL	Added the following entries: “Anthropomorphize” “Bypass” “Future tense” “hard-coded” “Many different” “Needed versus necessary” “Obvious” “Reuse content” “SLIM” “USB speeds” In “Bold” entry, added a cross-reference to Procedures. Removed page references from cross-references.

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Rev. *M June 25, 2014	GMRL	In Common Acronyms list, added “HD” for “high definition” and “UHD” for “ultra-high definition” In Units of Measure section, changed “FPS” to “fps” Expanded “Active Voice” entry by adding an example Added “Coordinate Adjectives” entry Edited “datapath” entry to make it one word Edited “FAQ” entry Edited “few, many, several, some” entry Expanded “flash” entry Added “folder” entry Added “full HD” entry Edited “Future tense” entry Added “HIGH” entry Changed “Range” entry to “Range of Numbers” Added “read-only (RO)” entry Added “read/write (R/W)” entry Added “real-time, real time” entry Edited “recommended” entry Added “reconfigure” to “reconfigure, reconfiguration” entry Added “re-create vs. recreate” entry Edited “required” entry Edited “runtime” entry Expanded SLIM entry to include two Cypress trademarks Added SPI entry Edited “Trademarks” entry by adding a rule prohibiting the use of plurals Expanded “Word Use” table under “International Audiences” Repeated “Word Use” table as its own entry under “W”

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Rev. *N Oct. 2, 2014	GMRL	Added the following acronyms (with spellout guidance) to Acronyms table: dBm CCCS DSD FFT HMI IDE (changed “D” word to “design” from “development” for CY internal use) IrDA LKM MH3 OCA TTDA TTHE TTSP UUID WLCSP (with a cross ref to CSP) Added the following entries: afterward (no “s”) base board (2 words) baseline (1 word) breadboard (1 word) checksum (1 word) file system (2 words) smartphone (1 word) touchpad (1 word; also known as trackpad) Corrected a spacing problem in “Excel settings” entry Changed “Abbreviations” entry to “Abbreviations or Acronyms” In “above” entry, added the word “previous” to recommendation of using “earlier” or “previous” Deleted “in Headings” to “Acronyms in Headings” entry title. Also added some acceptable acronyms as examples. Added guidance and referenced specs in “Application Notes” entry. In “PSoC” entry, added advice to use a non-breaking space between PSoC and the family number In Units of Measure, added dBm for decibel-milliwatts Fixed a couple of hyperlinks and added hyperlinks under “Application Notes” to 001-72046 and 001-72047.

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Rev. *O Dec. 27, 2014	GMRL	Added antennas entry Added to Acronyms table: GATT, MITM, PIFA, SOL, TCPWM In Acronyms table: Because “PGA” can stand for either pin grid array or programmable gain amplifier, changed Spellout? Value to Yes. Spell it out on first reference. Under Graphics Standards entry, added this sentence: When graphics and illustrations are created in Visio, use the "Fit size to contents" option (File > Page Setup > Page Size) before importing them to your source document. Under Brackets entry, do NOT use them to display a keyboard command. “Press F1,” for example, does not include the use of brackets. Similarly, in Ctrl entry, removed the brackets. Expanded HIGH entry.
Rev. *P March 24, 2015	GMRL	Added “ARM®” entry and expanded Cortex®-M0 entry Added entry: EZI2C Slave Moved “Process Shapes” sub-entry from page 25 to page 26 to go with its definition. Bulleted the list under “Excel Settings” Under Units of Measure, deleted excessive spacing in “K” entry Added two bullets to “Active Voice” entry to make bullet use consistent within that entry. Removed stray number and indent from “Boilerplate Items.” Fixed “MFi Component” entry by deleting extra words Major addition to “Screen Captures” entry General cleanup: spacing, punctuation and so on In Units of Measure, changed “Ku” to “K” (stands for 1,000) In Units of Measure, changed “Gbit” to “Gb” for gigabits In Common Acronyms table, deleted Kb and KB (they are found in Units of Measure) In Common Acronyms table, changed “OV” definition to “overcurrent” (one word) from “over-current”; same change with “UV” (undervoltage) In Common Acronyms table, we now recommend that SAR be spelled out on first reference: successive approximation register. In Common Acronyms table, changed “iDAC” to “IDAC.” In “Table of Contents” entry, limited the number of levels in a TOC to three.
Rev. *Q June 30, 2015	GMRL	Added the following sentence to the Acronyms and datasheet entries: “In Cypress datasheets, acronym tables are inserted at the beginning of the document.” Also added cross references to each other. Added “capacitive sensing” entry Added “Compound Subject” entry Added to the “e.g.” entry, including a cross reference to “i.e.” Deleted references to obsolete specs 001-85981 and 38-17001

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Rev. *R Sept. 29, 2015	GMRL	Added hyphen to pulse-width modulator in Acronyms table Added Internet of Things (IoT) as a new entry Added trademark info to SmartSense Auto-tuning entry Added points (from US to U.S.) to entry in Acronyms table