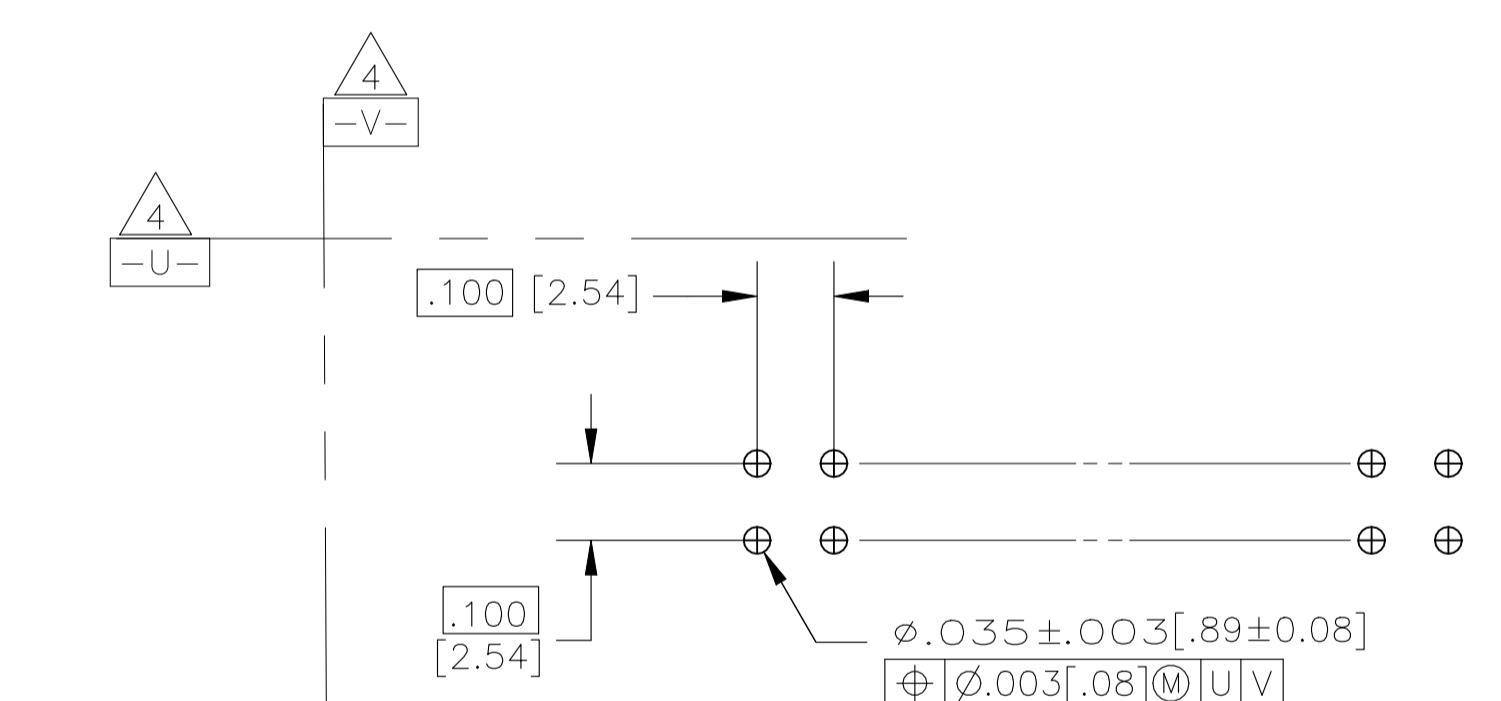
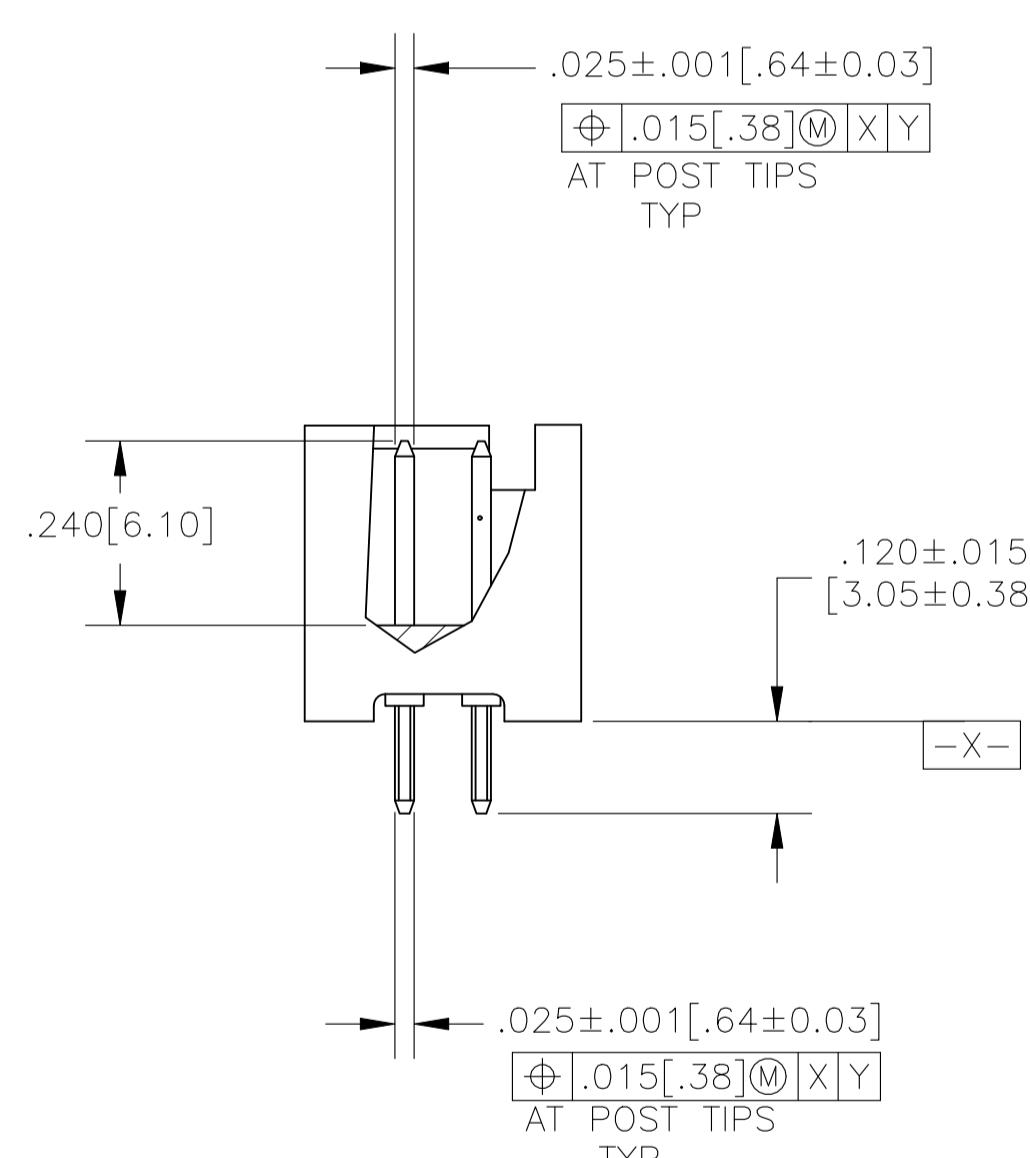
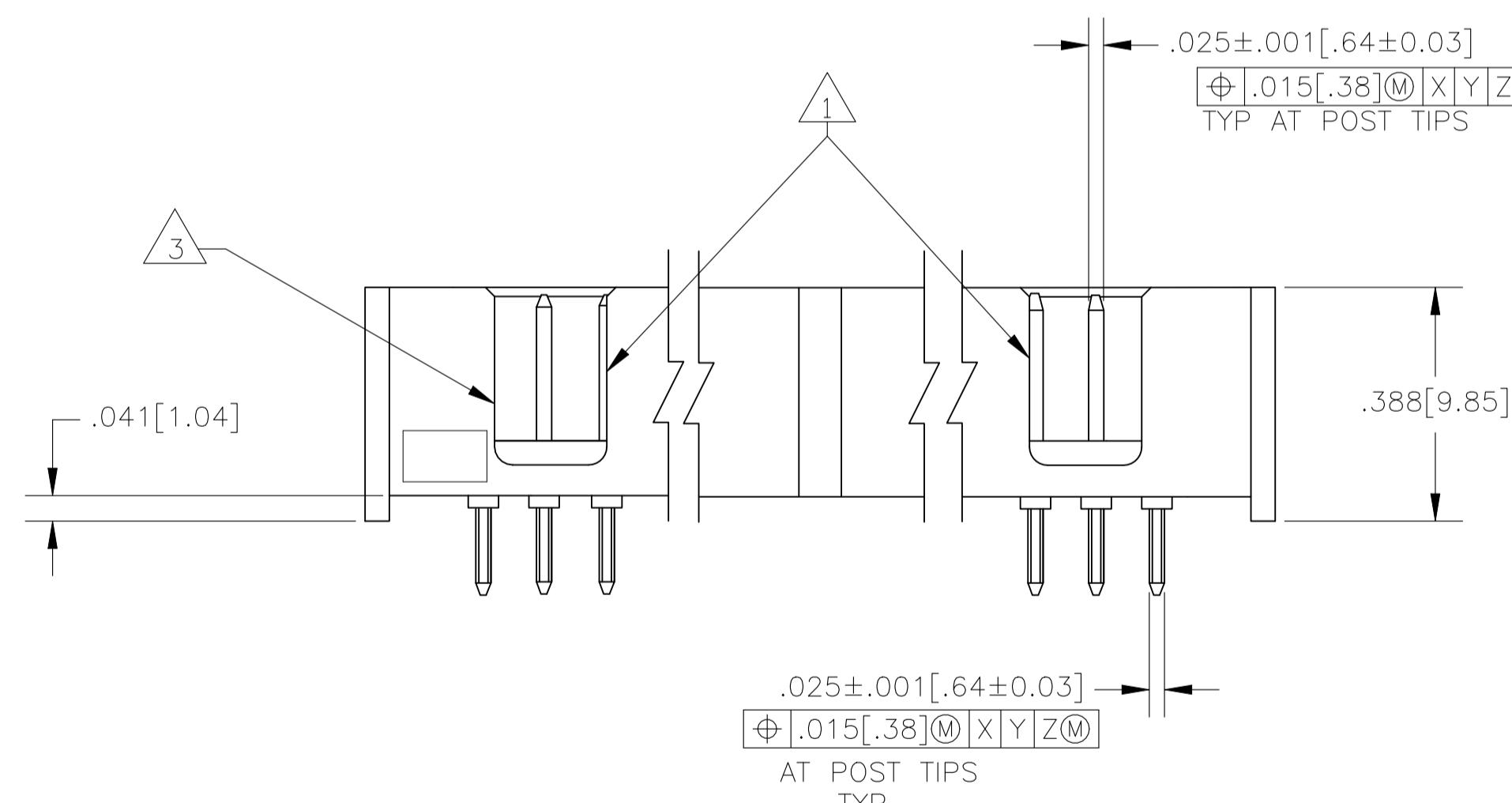


- DOUBLE BAR POLARIZATION SLOTS.
- CENTER POLARIZATION SLOT.
- FOR 10 POSN ASSEMBLY, SLOT OMITTED IN THIS LOCATION.
- DATUMS U AND V TO BE ESTABLISHED BY THE CUSTOMER.
- HOUSING: GLASS FILLED NYLON OR PBT, BLACK, UL 94V-0 RATED.
POSTS: BRASS.
- POSTS: GOLD FLASH OVER PALLADIUM-NICKEL PLATE,
.000015[.00038] MIN TOTAL ON THE MATING SURFACES,
.000100[.00254] MIN TIN PLATE ON THE SOLDER-TAILS,
.000050[.00127] MIN NICKEL UNDERPLATE ON THE ENTIRE POST.
-OR-
.000015[.00038] MIN GOLD PLATE ON THE MATING SURFACES,
.000100[.00254] MIN TIN PLATE ON THE SOLDER-TAILS,
.000050[.00127] MIN NICKEL UNDERPLATE ON THE ENTIRE POST.

RIBS:
ALL POSITION SIZES-2 LOCATED AT ENDS OF HOUSING.
20 THRU 34 POSITION SIZES-1 ADDITIONAL RIB CENTERED ON HOUSING.
40 THRU 60 POSITION SIZES- 2 ADDITIONAL RIBS EVENLY SPACED WITHIN REMAINING LENGTH OF HOUSING.



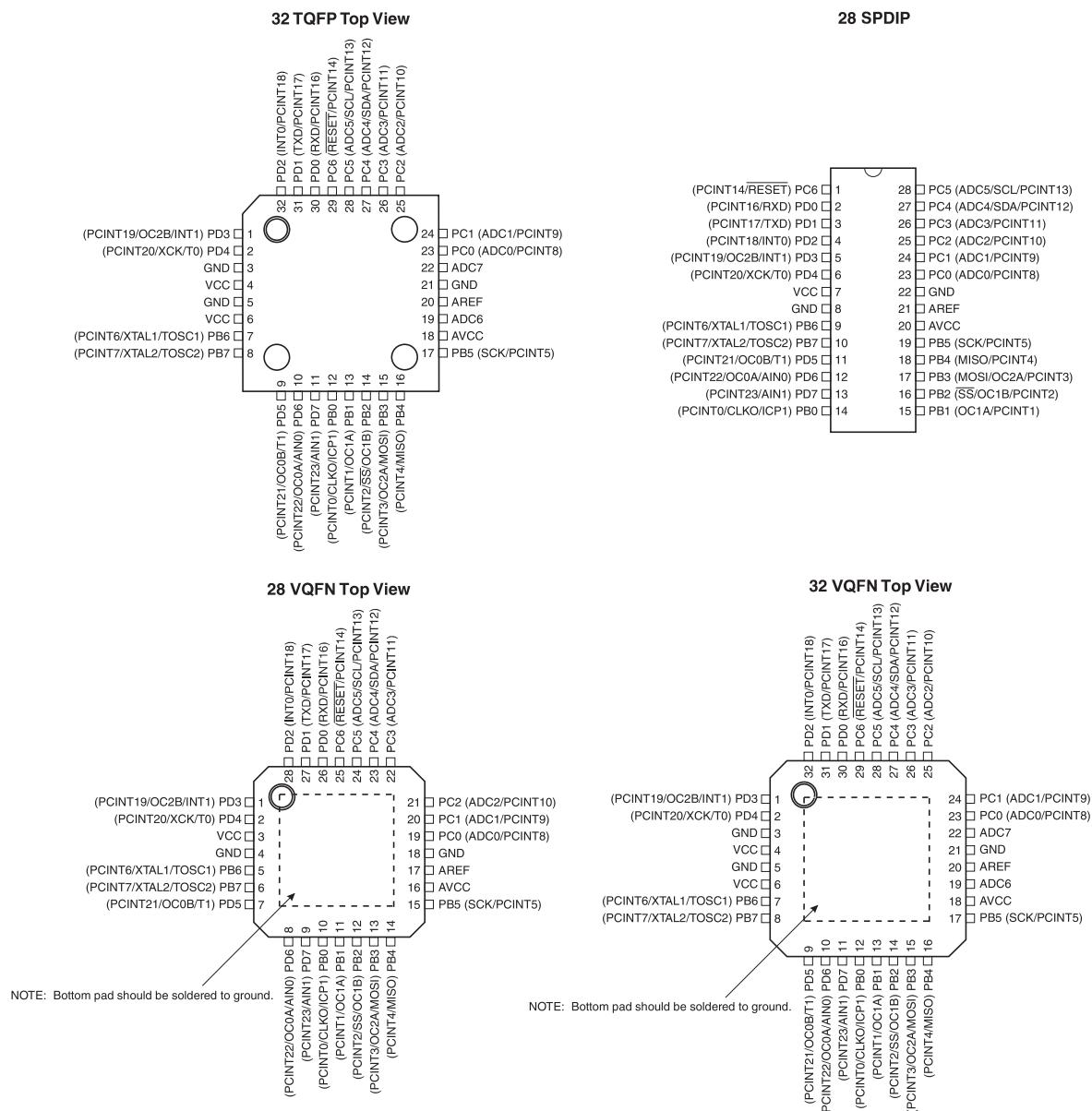
RECOMMENDED PCB LAYOUT

C	B	A	NO OF POSN	PART NUMBER
1.500 [38.10]	1.100 [27.94]	1 1	24	1-5103308-3
3.300 [83.82]	2.900 [73.66]	29	60	1-5103308-2
2.800 [71.12]	2.400 [60.96]	24	50	1-5103308-0
2.300 [58.42]	1.900 [48.26]	19	40	5103308-8
2.000 [50.80]	1.600 [40.64]	16	34	5103308-7
1.600 [40.64]	1.200 [30.48]	12	26	5103308-6
1.300 [33.02]	.900 [22.86]	9	20	5103308-5
1.100 [27.94]	.700 [17.78]	7	16	5103308-3
1.000 [25.40]	.600 [15.24]	6	14	5103308-2
.800 [20.32]	.400 [10.16]	4	10	5103308-1
C				NO OF POSN
B				PART NUMBER
A				

THIS DRAWING IS A CONTROLLED DOCUMENT.		01 NOV 05	01 NOV 05	TE Connectivity
DIMENSIONS: INCHES [mm]		TOLERANCES UNLESS OTHERWISE SPECIFIED:		
0 PLC 1 PLC 2 PLC 3 PLC 4 PLC 5 PLC		± - ± - ± - ± .005[.13]		
		M. WAIMSLEY 01 NOV 05 PRODUCT SPEC 108-40018 APPLICATION SPEC -		
MATERIAL	FINISH	SIZE	CAGE CODE	DRAWING NO
5	6	WEIGHT	A1 00779	C 5103308
RESTRICTED TO				
CUSTOMER DRAWING				
SCALE 4:1 SHEET 1 OF 1 REV E1				

1. Pin Configurations

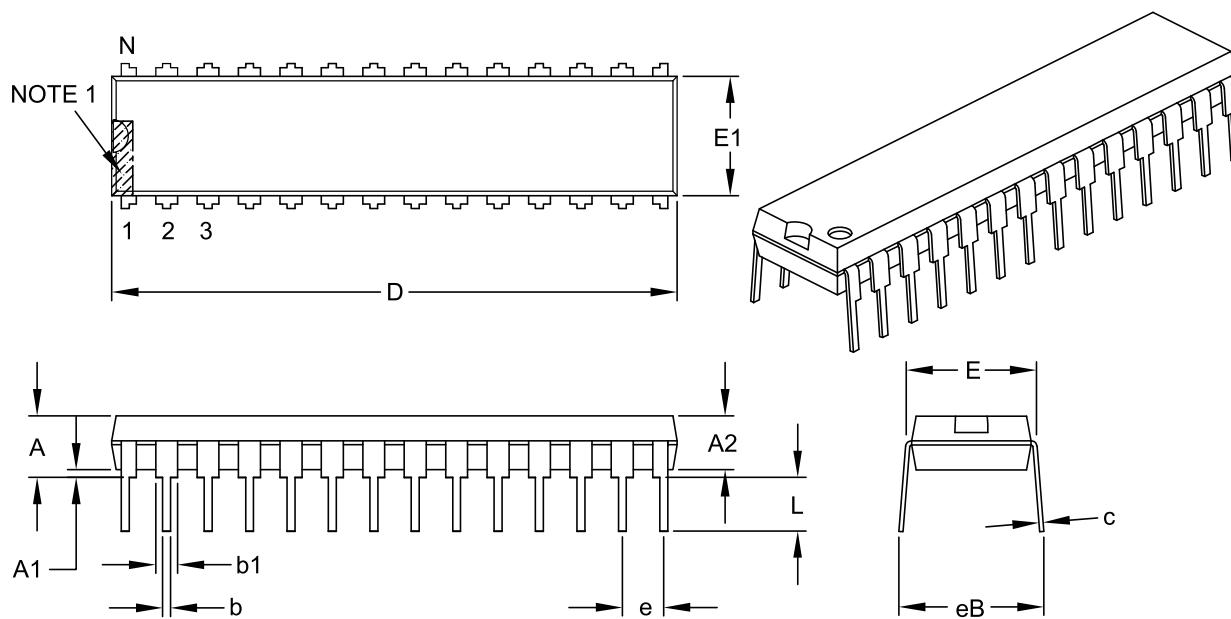
Figure 1-1. Pinout ATmega48A/PA/88A/PA/168A/PA/328/P



39.4 28P3

28-Lead Skinny Plastic Dual In-Line (SP) – 300 mil Body [SPDIP]

Note: For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



	Units	INCHES		
		MIN	NOM	MAX
Number of Pins	N		28	
Pitch	e		.100 BSC	
Top to Seating Plane	A	—	—	.200
Molded Package Thickness	A2	.120	.135	.150
Base to Seating Plane	A1	.015	—	—
Shoulder to Shoulder Width	E	.290	.310	.335
Molded Package Width	E1	.240	.285	.295
Overall Length	D	1.345	1.365	1.400
Tip to Seating Plane	L	.110	.130	.150
Lead Thickness	c	.008	.010	.015
Upper Lead Width	b1	.040	.050	.070
Lower Lead Width	b	.014	.018	.022
Overall Row Spacing §	eB	—	—	.430

Notes:

1. Pin 1 visual index feature may vary, but must be located within the hatched area.
2. § Significant Characteristic.
3. Dimensions D and E1 do not include mold flash or protrusions. Mold flash or protrusions shall not exceed .010" per side.
4. Dimensioning and tolerancing per ASME Y14.5M.

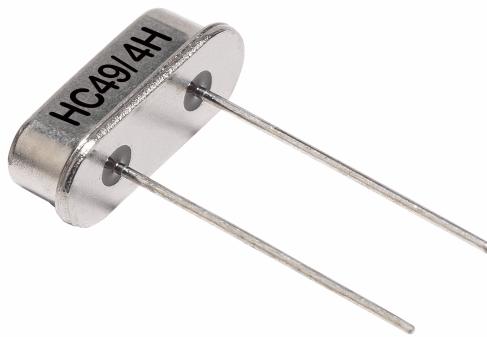
BSC: Basic Dimension. Theoretically exact value shown without tolerances.

Microchip Technology Drawing C04-070B

Customer Part:

Description

- Industry standard leaded package
Resistance welded, hermetically sealed in an inert atmosphere,
glass to metal seals on leads
- Model HC49/4H
- Model Issue number 15



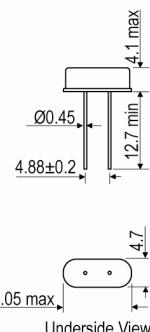
Frequency Parameters

- Frequency 16.0MHz
- Frequency Tolerance $\pm 30.00\text{ppm}$
- Tolerance Condition @ 25°C
- Frequency Stability $\pm 50.00\text{ppm}$
- Operating Temperature Range -10.00 to 60.00°C
- Overtone Order Fundamental
- Ageing $\pm 5\text{ppm}$ typical per year at 25°C

Electrical Parameters

- Load Capacitance (CL) 22.00pF
- Shunt Capacitance (C0) 7pF max
- Drive Level 500 μW max
- ESR 40.00 Ω max

Outline (mm)



Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock: 981m/s², 6ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: 10Hz-60Hz, 0.75mm amplitude, 60Hz-500Hz, 98.1m/s², 30mins in 3 mutually perpendicular planes

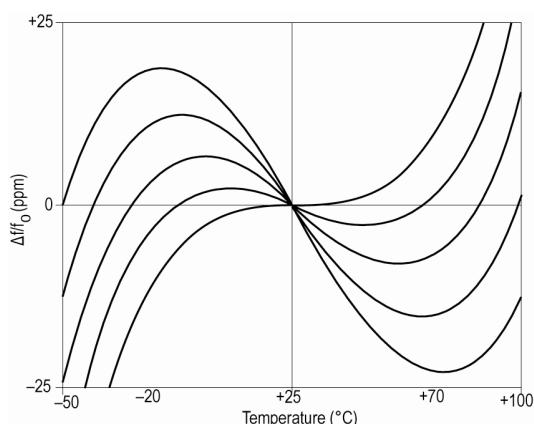
Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

- Pack Style: Bulk Loose in Bulk pack
- Pack Size: 100
- Alternative packing option available

Typical Frequency vs Temperature Curves



Sales Office Contact Details:

UK: +44 (0)1460 270200

France: 0800 901 383

Email: info@iqdfrequencyproducts.com

Germany: 0800 1808 443

USA: +1.760.318.2824

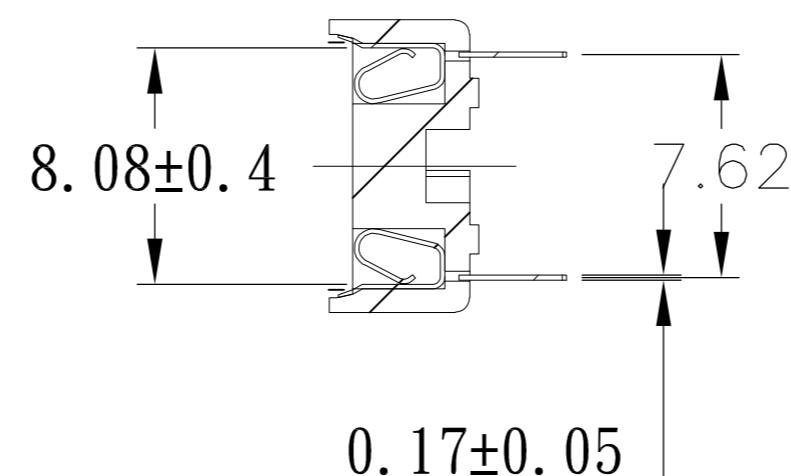
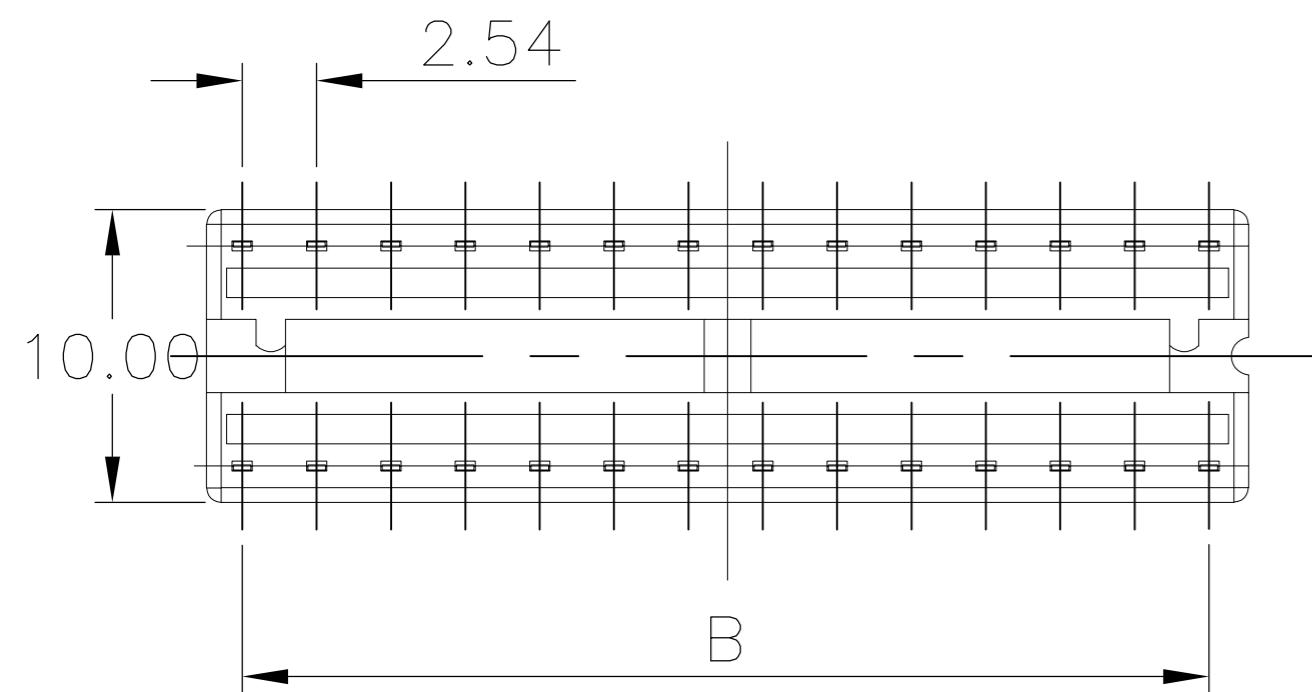
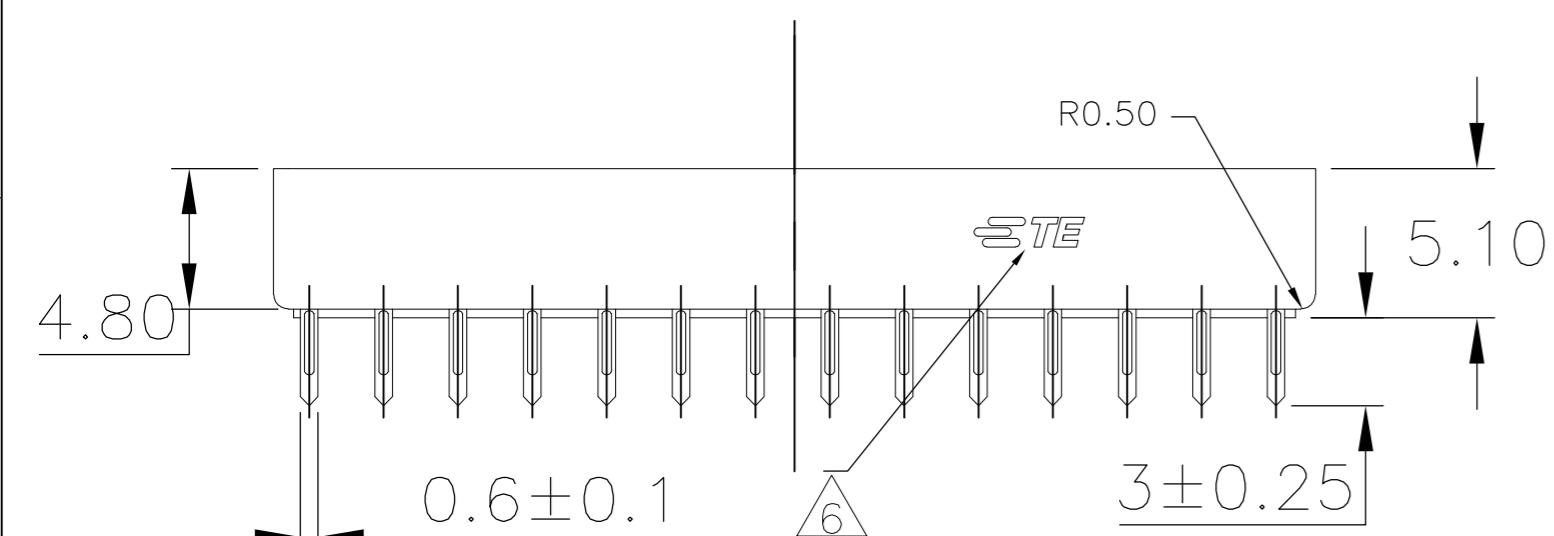
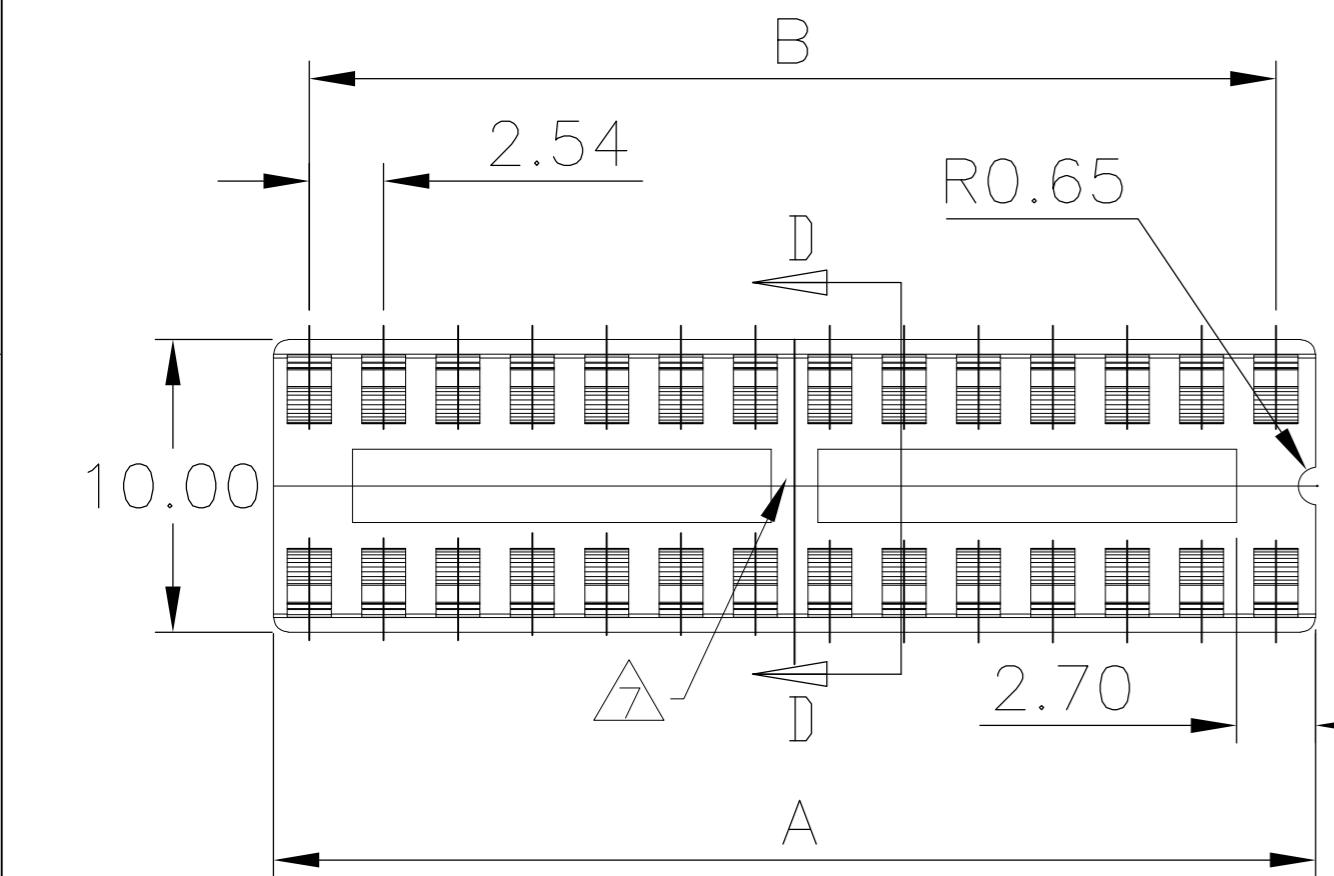
Web: www.iqdfrequencyproducts.com

THIS DRAWING IS UNPUBLISHED.
RELEASED FOR PUBLICATION
ALL RIGHTS RESERVED.
© COPYRIGHT - By -

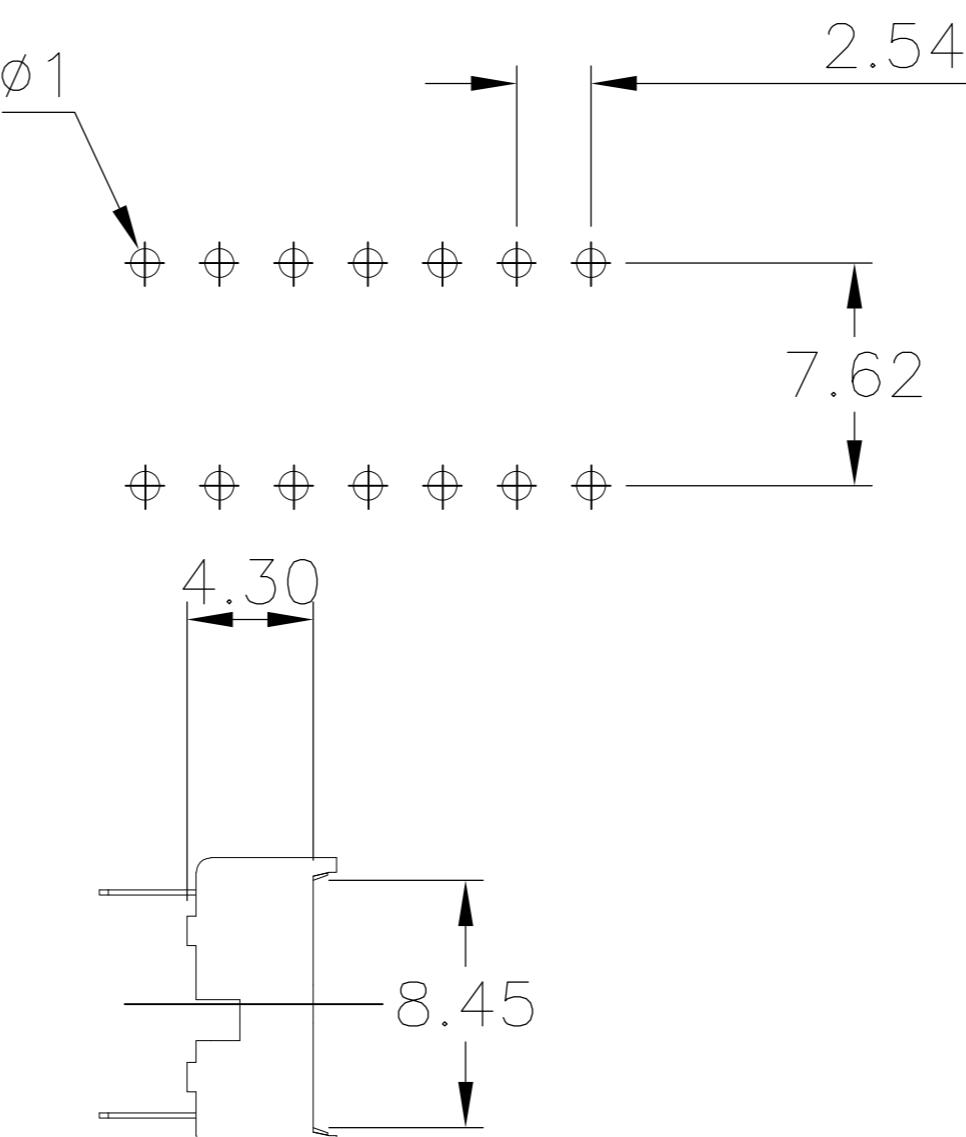
REVISIONS
LOC AD DIST 0
P LTR
DESCRIPTION DATE DWN APVD
A RELEASED 18NOV13 W.W C.W

NOTE:

- 1.** MATERIAL:
HOUSING: 30% GLASS FILLED PBT, THERMOPLASTIC, BLACK.
CONTACT: PHOS BRONZE
- 2.** FINISH: CONTACT PLATING TIN (LEAD FREE); 60 UIN MIN. OVER 30 UIN Ni
SOLDERABILITY :95% COVERAGE MIN.;
WORKING CONDITION:230°±5°C MAX;
- 3. MECHANICAL Specs:
DURABILITY: 50 CYCLES MIN.
INSERTION FORCE:300 GRAMS MAX.
WITHDRAWAL FORCE: 20 GRAMS MIN.
CONTACT RETENTION: 500 GRAMS MIN.
ACCEPTS: 0.20–0.30 [.008-.012] LEADS
- 4. ELECTRICAL Specs:
VOLTAGE RATING: 250V AC,DC
CONTACT RESISTANCE: 20 MILLOHMS MAX.
CURRENT RATING: 1 AMPERE AC,DC
INSULATION RESISTANCE: 1000 MEGOHMS MIN.
DIELECTRIC WITHSTANDING VOLTAGE: AC 1000 V MIN.
- 5. OPERATING TEMPERATURE: -40°C TO +105°C
- 6.** TE LOGO
- 7.** LADDER PRESENT FOR 24, 28 & 32 POSITION SOCKETS.



SECTION D-D

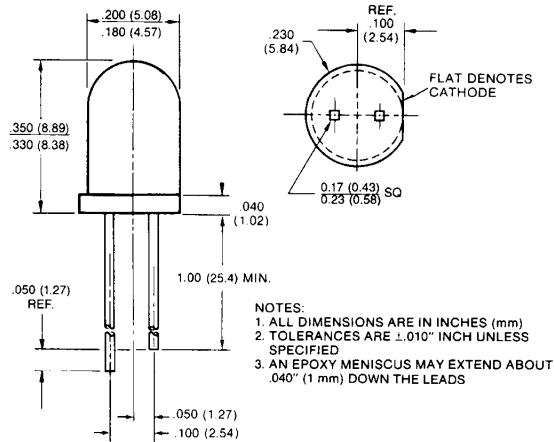


28	35.56	33.02	1-2199298-9
24	30.48	27.94	1-2199298-8
20	25.40	22.86	1-2199298-6
18	22.86	20.32	1-2199298-5
16	20.32	17.78	1-2199298-4
14	17.78	15.24	1-2199298-3
8	10.16	7.62	1-2199298-2
6	7.62	5.08	1-2199298-1
FINISH	POS	A ±0.20	B±0.15
			PART NO.

THIS DRAWING IS A CONTROLLED DOCUMENT.			DRAWN BY WINNG WANG 18NOV2013
DIMENSIONS: mm			CHK BY SOMIN LI 18NOV2013
TOLERANCES UNLESS OTHERWISE SPECIFIED:			APV'D BY COREL WANG 18NOV2013
0 PLC	± -		PRODUCT SPEC
1 PLC	± -		APPLICATION SPEC
2 PLC	± 0.2 [.008]		
3 PLC	± -		
4 PLC	± -		
ANGLES	± -		
MATERIAL	FINISH	△VA	NAME
			DIP SOCKET, .300 CENTER LINE LADDER STYLE
			—
SIZE	CAGE CODE	DRAWING NO	RESTRICTED TO
A2	00779	C-2199298	—
CUSTOMER DRAWING			SCALE 4:1 SHEET 1 OF 1 REV A

ORANGE MV5153/4A MV6153/4A
YELLOW MV5353/4A MV6353/4A
HIGH EFFICIENCY GREEN MV5453/4A MV64530/1 MV6454A
HIGH EFFICIENCY RED MV5753/4A MV6753/4A

PACKAGE DIMENSIONS



DESCRIPTION

These solid state indicators offer a variety of diffused lens effects and color availability. The High Efficiency Red and Yellow devices are made with gallium arsenide phosphide on gallium phosphide. The Green units are made with gallium phosphide on gallium phosphide. All devices are available with cathode long as MV5X5X, or with anode long as MV6X5X.

FEATURES

- High efficiency GaP light source with various lens effects
- Versatile mounting on PC board or panel
- Snap in grommet MP52 available as separate order item
- Long life—solid state reliability
- Low power requirements
- Compact, rugged, lightweight

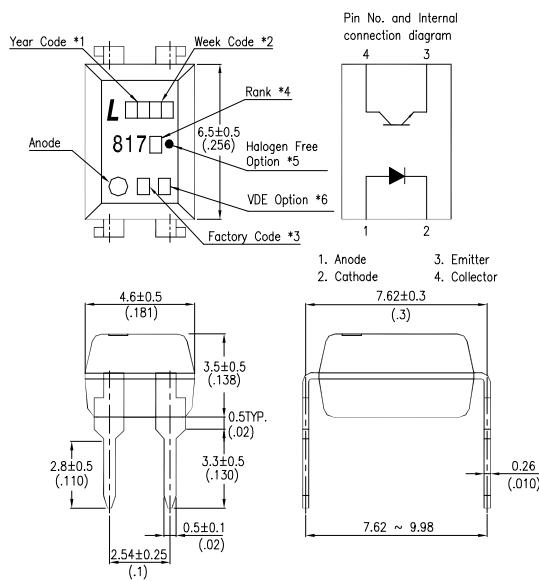
PHYSICAL CHARACTERISTICS

CATHODE LONG	ANODE LONG	SOURCE COLOR	LENS TYPE	LENS EFFECT	APPLICATION
MV5153	MV6153	High Efficiency Red	Amber Diffused	Wide Beam	Direct View
MV5154A	MV6154A	High Efficiency Red	Amber Diffused	Narrow Beam	High Bright Direct View
MV5353	MV6353	Yellow	Yellow Diffused	Wide Beam	Direct View
MV5354A	MV6354A	Yellow	Yellow Diffused	Narrow Beam	High Bright Direct View
MV5453	MV64530/1	High Efficiency Green	Green Diffused	Wide Beam	Direct View
MV5454A	MV6454A	High Efficiency Green	Green Diffused	Narrow Beam	High Bright Direct View
MV5753	MV6753	High Efficiency Red	Red Diffused	Wide Beam	Direct View
MV5754A	MV6754A	High Efficiency Red	Red Diffused	Narrow Beam	High Bright Direct View

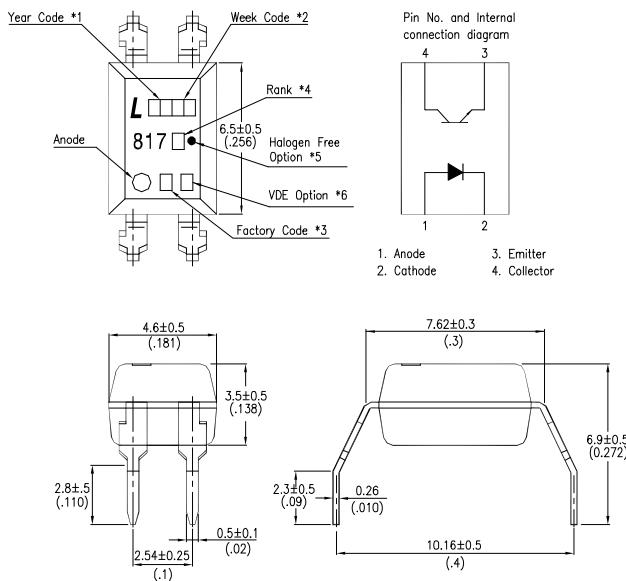
Photocoupler LTV-8x7 Series

2. PACKAGE DIMENSIONS

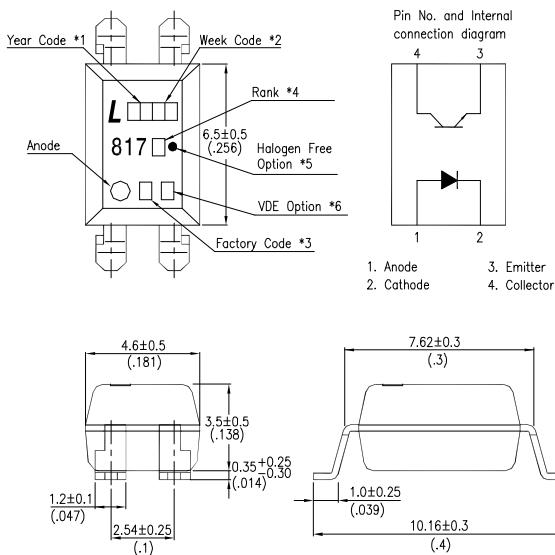
2.1 LTV-817



2.2 LTV-817M



2.3 LTV-817S

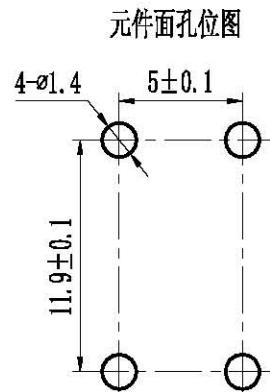
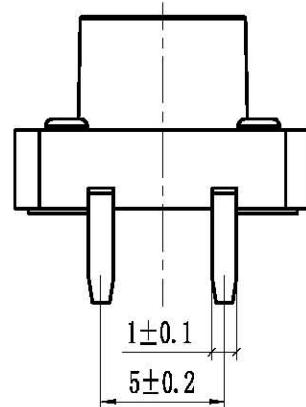
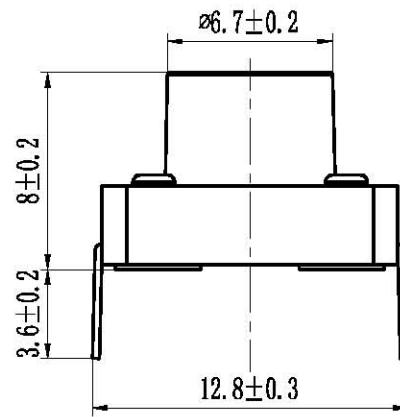


Notes :

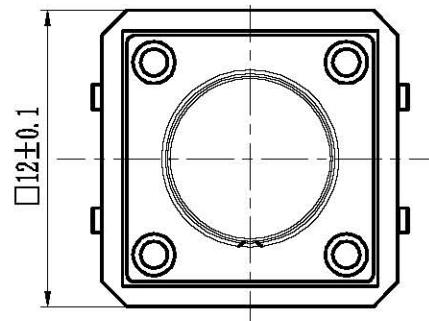
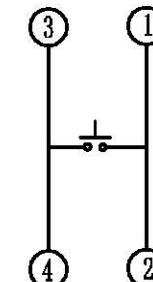
1. 2-digit year code, example : 2016 = 16
2. 2-digit work week ranging from '01' to '53'
3. Factory identification mark shall be marked (W: China-CZ, Y: Thailand)
4. Rank shall be or shall not be marked.
5. "●" for halogen free option.
6. "4"or"V" for VDE option.

Dimensions in millimeters(inches).

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15



电原理图



轻触开关主要技术指标: Main Specifications:

气候等级 Climate Grade	额定值 Rated Values	接触电阻 Contact Resistance	耐电压 Dielectric Strength	绝缘电阻 Insulation Resistance	动作力 Operating Force	寿命 Life	盐雾试验 Salt mist Test
-25°C 至 +75°C	12V DC, 0.1A	≤0.03Ω	250V AC	≥100MΩ	260gf±50gf	10W times	24±1 hours

序号	零件料号	名称	材料	数量	镀层/颜色	备注
5	—	塑座	PA66	1	黑色	
4	—	按钮	PC	1	红色	
3	—	铜盖	H62-Y1 t=0.25	1	CuSn	
2	—	弹片	复银 t=0.06	1	Ag	
1	—	卡件	H62-Y1 t=0.3	1	Ag	

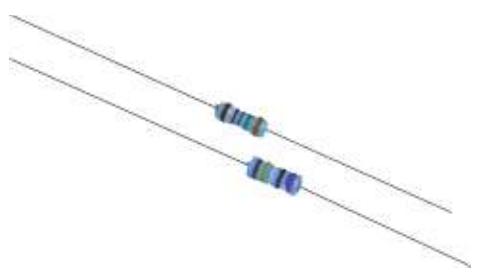
轻触开关
外形图

					角度	±5°	
					>30~	±0.45	
					>10~30	±0.35	
	A/0	—	—	—	~10	±0.25	
变更单号	版本	日期	内容描述	变更	审核	批准	未注公差

设计	17.11.07	产品型号	
审核	17.11.07		
批准	17.11.07	客户编码	12×8H 复银260g10W红钮环保直脚四
比例	3:1	单位	mm
		页码	1 OF 1 A4

Features:

- Precision metal film
- Superior electrical, TCR performances
- Flame-retardant coatings are standard
- Panasert available selected sizes (contact Stackpole)
- RNMF (mini) an ideal choice where size constraints apply
- RNF 5% replaces MP series
- Lower or higher resistance values may be possible (contact Stackpole)
- 100% RoHS compliant and lead free without exemption
- Halogen free
- REACH compliant

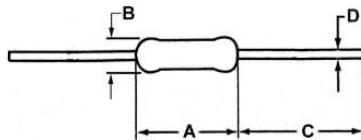


Electrical Specifications

Type / Code	Mil Ref	Power Rating (W) @ 70°C	Maximum Working Voltage (Vrms) ⁽¹⁾	Maximum Overload Voltage (Vrms)	TCR (ppm/°C)	Ohmic Range (Ω) and Tolerance								
						0.05%	0.1%	0.25%	0.5%	1%	2%	5%		
RNF18	RN 50	0.125	200	400	± 25 ± 50 ± 100	100 - 100K 51.1 - 100K	100 - 100K	30.1 - 499K 10 - 1M	49.9 - 499K 1 - 1M	-				
							51.1 - 100K		1 - 10M	1 - 22M				
							-	30.1 - 499K 10 - 1M	30.1 - 499K 1 - 1M 1 - 2.15M	-				
RNMF14	-	0.25	200	400	± 25 ± 50 ± 100	-	100 - 100K	30.1 - 499K 10 - 1M	30.1 - 499K 1 - 1M 1 - 2.15M	-				
									1 - 2.2M	1 - 2.2M				
								100 - 100K	-			-		
RNF14	RN 55	0.25	250	500	± 10 ± 25 ± 50 ± 100	100 - 100K	100 - 100K	-			-	-		
								1 - 2.2M						
								10 - 1M 1 - 5.11M 1 - 10M			5.6 - 10M	1.1M - 10M 1 - 10M		
RNMF12	RL 07	0.5	350	600	± 25 ± 50 ± 100	-	30.1 - 294K 30.1 - 1M	30.1 - 294K	49.9 - 1M	-				
								30.1 - 1M	10 - 1M	1 - 1M 1 - 10M	1 - 10M			
								-						
RNF12	RN 60	0.5	350	700	± 25 ± 50 ± 100	100 - 100K	100 - 100K	49.9 - 499K			-	-		
								10 - 1M	1 - 4.99M 1 - 10M					
								1 - 10M						
RNF1	RN 65	1	350	700	± 25 ± 50 ± 100	-	-	-			-	-		
								10 - 1M	10 - 470K 1 - 1M					
								-						
RNMF2	-	2	350	800	± 25 ± 50 ± 100	-	-	-			-	-		
								10 - 1M	-					
								10 - 1M						

(1) Lesser of $\sqrt{P \cdot R}$ or maximum working voltage

Mechanical Specifications



Type / Code	A Body Length	B Body Diameter	C Lead Length (Bulk)	D Lead Diameter	Unit
RNF18	0.130 ± 0.012 3.30 ± 0.30	0.071 ± 0.012 1.80 ± 0.30	1.102 ± 0.118 28.00 ± 3.00	0.018 ± 0.003 0.45 ± 0.07	inches mm
RNMF14	0.130 ± 0.012 3.30 ± 0.30	0.070 ± 0.003 1.78 ± 0.08	1.102 ± 0.118 28.00 ± 3.00	0.017 ± 0.002 0.44 ± 0.05	inches mm
RNF14	0.250 ± 0.026 6.35 ± 0.65	0.093 ± 0.010 2.35 ± 0.25	1.102 ± 0.118 28.00 ± 3.00	0.022 ± 0.003 0.56 ± 0.08	inches mm
RNMF12	0.250 ± 0.026 6.35 ± 0.65	0.093 ± 0.010 2.35 ± 0.25	1.102 ± 0.118 28.00 ± 3.00	0.022 ± 0.003 0.56 ± 0.08	inches mm
RNF12	0.344 ± 0.030 8.75 ± 0.75	0.108 ± 0.039 2.75 ± 1.00	1.102 ± 0.197 28.00 ± 5.00	0.026 ± 0.004 0.65 ± 0.10	inches mm

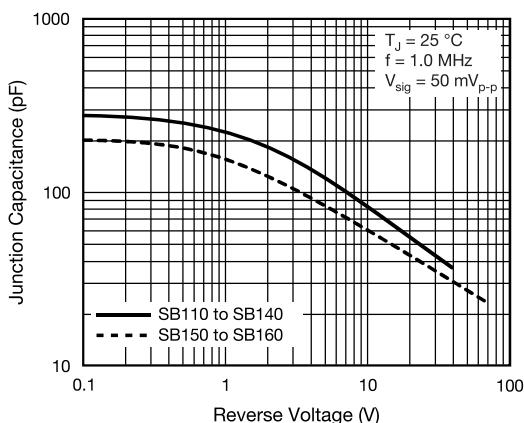


Fig. 5 - Typical Junction Capacitance

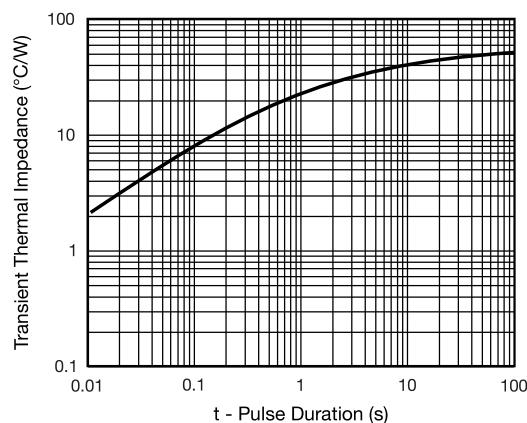
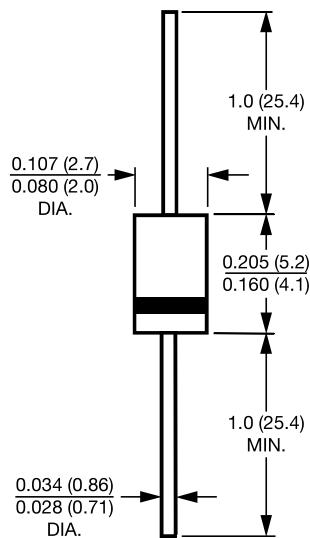


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-41 (DO-204AL)



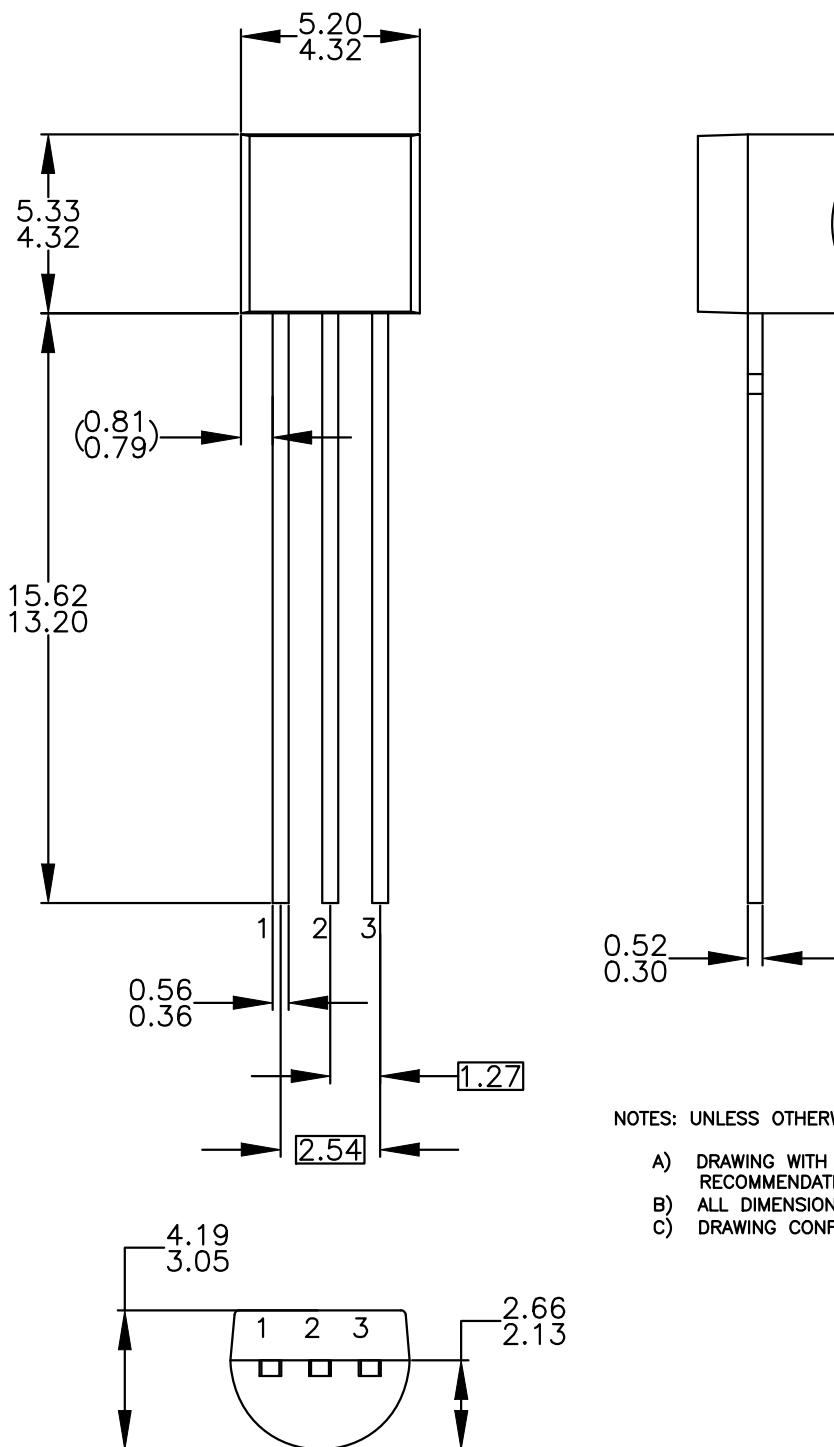
MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

ON Semiconductor®



TO-92 3 4.825x4.76
CASE 135AN
ISSUE O

DATE 31 JUL 2016



DOCUMENT NUMBER:	98AON13880G	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.
DESCRIPTION:	TO-92 3 4.825X4.76	PAGE 1 OF 1

ON Semiconductor and are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. ON Semiconductor does not convey any license under its patent rights nor the rights of others.

THIS DRAWING IS UNPUBLISHED.

RELEASED FOR PUBLICATION

20

(C) COPYRIGHT 20

ALL RIGHTS RESERVED.

LOC

FT

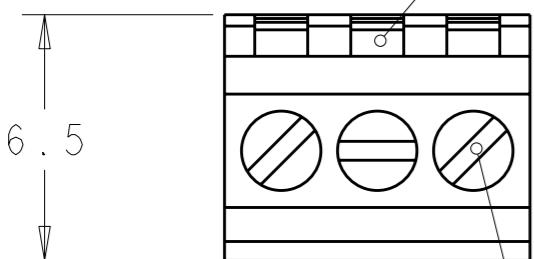
DIST

0

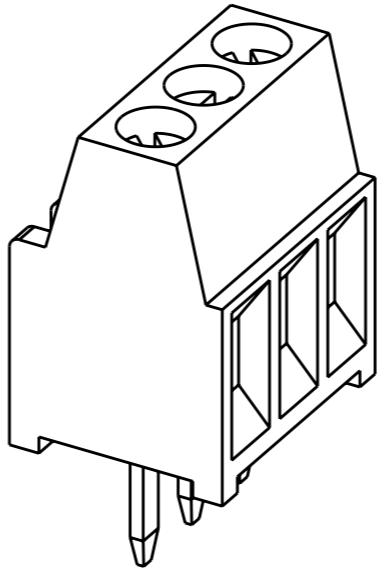
REVISIONS

P	LTR	DESCRIPTION	DATE	DWN	APVD
C1		REVISED PER ECO-II-007905	15APR2011	HMR	CR

TEST FACILITY



CLAMPING SCREW



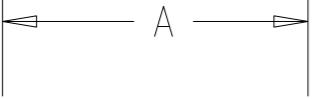
MATERIALS AND FINISH
HOUSING: PA 6-6, UL 94-V0, COLOR GREEN.
CLAMP: BRASS, NICKEL PLATED.
TERMINAL: BRASS, TIN PLATED.
CLAMPING SCREW: M1.6, STAINLESS STEEL.

2 SUITABLE FOR 1,6-2,4mm PC BOARD THICKNESS.

3 CONNECTION POWER
SOLID WIRE: 0,03-1mm (17AWG).
STRANDED WIRE: 0,03-0,75mm (18AWG)₂4 RECOGNIZED UNDER THE COMPONENT PROGRAM OF
UNDERWRITERS LABORATORIES INC. FILE N° E60677.5 POSSIBILITY TO PUT TWO OR THREE TERMINAL BLOCKS
SIDE BY SIDE BY INCREASING THE DIAMETER OF THE
PCB HOLES TO MINIMUM 1,3mm.

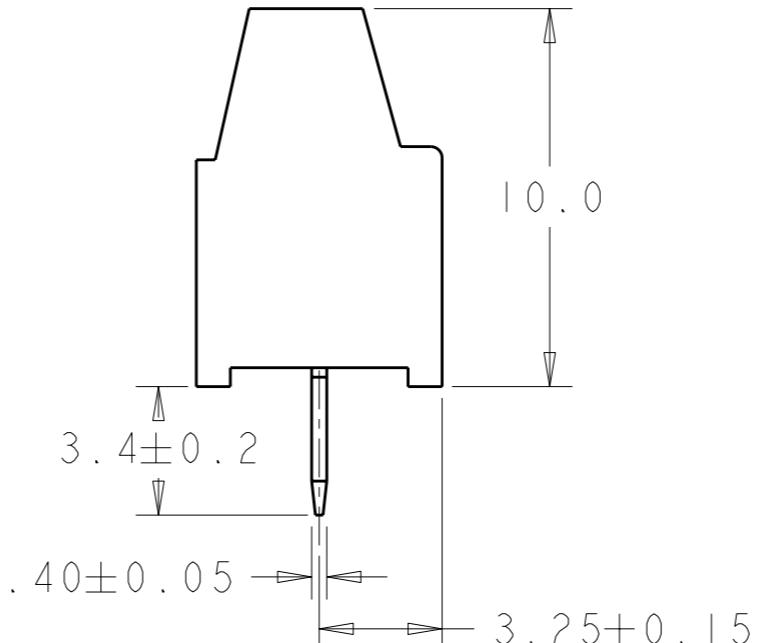
6 NOT CUMULATIVE TOLERANCE.

7 TORQUE: 1.73 in-lbs MAX

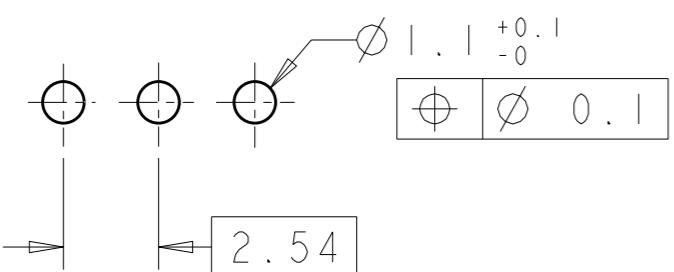


WIRE ENTRY

1.5 REF
 2.54 ± 0.05
 0.80 ± 0.05



RECOMMENDED PC BOARD LAYOUT



THIS DRAWING IS A CONTROLLED DOCUMENT.

DIMENSIONS:		TOLERANCES UNLESS OTHERWISE SPECIFIED:	
mm		0 PLC	±-
1 PLC		1 PLC	±.3
2 PLC		2 PLC	±.25
3 PLC		3 PLC	±-
4 PLC ANGLES		4 PLC ANGLES	±.2
MATERIAL		FINISH	

DWN 15AUG2001

E. ZANOLINI

CHK 15AUG2001

D. BIEVENOUR

APVD 15AUG2001

D. BIEVENOUR

PRODUCT SPEC

108-20166

APPLICATION SPEC

114-20079

WEIGHT -

CUSTOMER DRAWING



TE Connectivity

TERMINAL BLOCK PCB MOUNT
SIDE WIRE ENTRY STACKING
2.54mm PITCH

SIZE A3
CAGE CODE 00779
DRAWING NO C-282834

RESTRICTED TO -
SCALE 5:1
SHEET 1 OF 1
REV C1

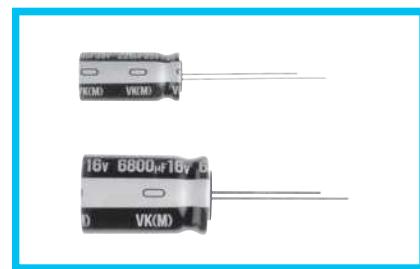
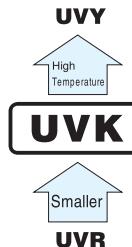
ALUMINUM ELECTROLYTIC CAPACITORS

UVK

Miniature Sized



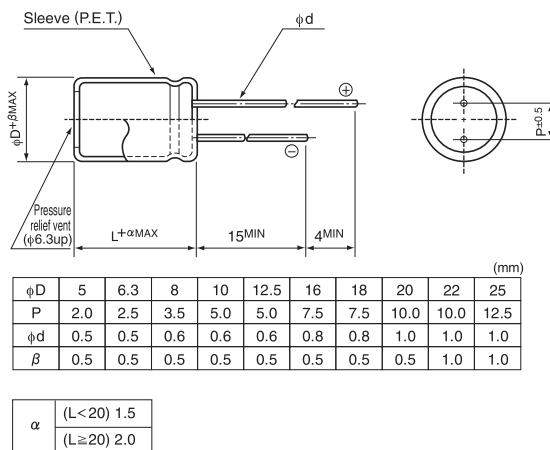
- One rank smaller case sizes than UVR.
- Compliant to the RoHS directive (2011/65/EU),(EU)2015/863.



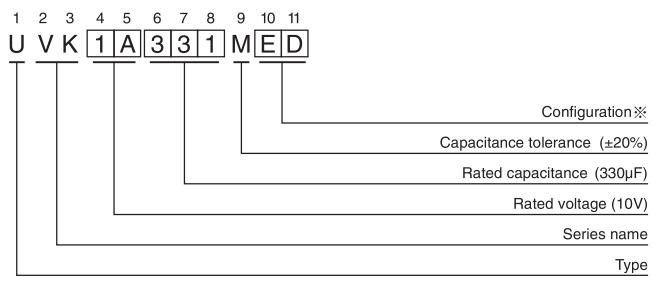
■ Specifications

Item	Performance Characteristics										
Category Temperature Range	-40 to +85°C (6.3V to 400V), -25°C to +85°C (450V)										
Rated Voltage Range	6.3 to 450V										
Rated Capacitance Range	0.47 to 33000μF										
Capacitance Tolerance	±20% at 120Hz, 20°C										
Leakage Current	Rated voltage (V)	6.3 to 100V					160 to 450V				
		After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4 (μA), whichever is greater.					After 1 minute's application of rated voltage at 20°C, CV ≤ 1000 : I = 0.1CV+40μA or less CV>1000 : I = 0.04CV+100 (μA) or less				
Tangent of loss angle (tan δ)	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160 to 250	350 to 450
	tan δ (MAX.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.25
Stability at Low Temperature	Rated voltage (V)	6.3	10	16	25	35	50 to 100	160 to 200	250 to 350	400	450
	Impedance ratio (MAX.)	Z=25°C / Z+20°C	5	4	3	2	2	3	4	6	15
		Z=40°C / Z+20°C	12	10	8	5	4	3	4	8	10
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.					Capacitance change	Within ±20% of the initial capacitance value				
						tan δ	200% or less than the initial specified value				
						Leakage current	Less than or equal to the initial specified value				
Shelf Life	After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.										
Marking	Printed with white color letter on black sleeve.										

■ Radial Lead Type



Type numbering system (Example : 10V 330μF)



φ D	Pb-free leadwire Pb-free PET sleeve
5	DD
6.3	ED
8 · 10	PD
12.5 to 18	HD
20 to 25	RD

- Please refer to the Guidelines for Aluminum Electrolytic Capacitors for end seal configuration information.

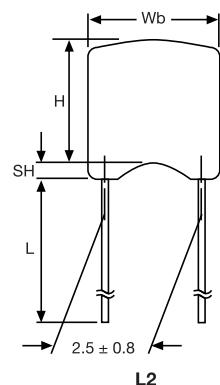
● Frequency coefficient of rated ripple current

V	Cap.(μF)	Frequency	50Hz	120Hz	300Hz	1 kHz	10kHz or more
6.3 to 100	2.2 to 68	0.75	1.00	1.35	1.57	2.00	
	100 to 470	0.80	1.00	1.23	1.34	1.50	
	1000 to 33000	0.85	1.00	1.10	1.13	1.15	
160 to 450	0.47 to 220	0.80	1.00	1.25	1.40	1.60	
	330 to 1000	0.90	1.00	1.10	1.13	1.15	

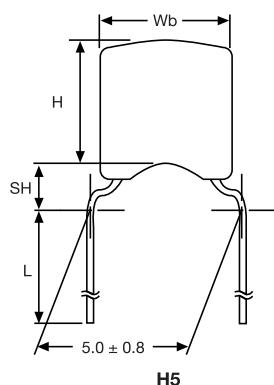
● Dimension table in next page.

nichicon

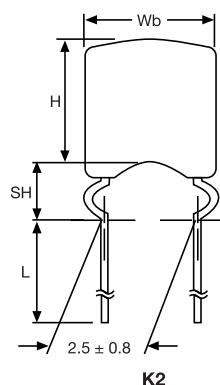
CAT.8100K

LEAD CONFIGURATION AND DIMENSIONS (in millimeters)


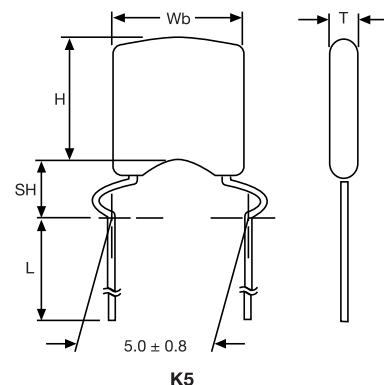
Component outline for
lead spacing $2.5 \text{ mm} \pm 0.8 \text{ mm}$
(straight leads)



Component outline for
lead spacing $5.0 \text{ mm} \pm 0.8 \text{ mm}$
(flat bent leads)



Component outline for
lead spacing $2.5 \text{ mm} \pm 0.8 \text{ mm}$
(outside kink)

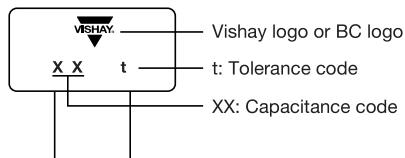
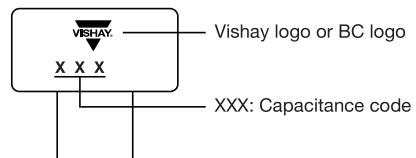
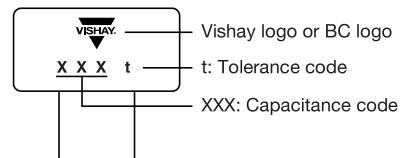


Component outline for
lead spacing $5.0 \text{ mm} \pm 0.8 \text{ mm}$
(outside kink)

SIZE CODE	W _b MAX.	H _{MAX.}	T _{MAX.}	MAXIMUM SEATING HEIGHT (SH)			
				L2	H5	K2	K5
10	3.6	3.6	2.3	1.6	2.6	3.5	-
15	4.0	4.0	2.6	1.6	2.6	3.5	3.5
20	5.0	5.0	3.2	1.6	2.6	3.5	3.5

Notes

- Bulk packed types have a standard lead length $L = 30 \text{ mm} \pm 5 \text{ mm}$
- The K5 lead style is not available for size 10
- L2 and H5 are preferred styles

MARKING
SIZE 10 AND 15 CAPACITANCE VALUE < 100 pF

SIZE 10 AND 15 CAPACITANCE VALUE ≥ 100 pF

SIZE 20

Notes

- The capacitance code indicates actual capacitance in pF when capacitance value < 100 pF
- Two significant digits followed by one digit for the multiplier as given following: 1 = * 10, 2 = * 100, 3 = * 1000, 4 = * 10 000, 5 = * 100 000
- The tolerance codes are J = 5 %, K = 10 %, M = 20 % and Z = + 80 %/ - 20 %

ORDERING CODE INFORMATION

K	104	K	15	X7R	F	5	3	H	5
1	2 3 4	5	6 7	8 9 10	11	12	13	14	15
Product Type	Capacitance (pF)	Capacitance Tolerance	Size Code	T.C. Code	Rated Voltage	Lead Diameter	Packaging / Lead Length	Lead Style	Lead Spacing
K = radial leaded MLCC	The first two digits are the significant figures of capacitance and the last digit is a multiplier as follows: 0 = * 1 1 = * 10 2 = * 100 3 = * 1000 4 = * 10 000 5 = * 100 000	J = ± 5 % K = ± 10 % M = ± 20 % Z = + 80 %/ - 20 %	Please refer to relevant datasheet	Please refer to relevant datasheet	F = 50 V _{DC} H = 100 V _{DC} K = 200 V _{DC} L = 500 V _{DC}	5 = 0.50 mm ± 0.05 mm	3 = bulk T = tape and reel U = ammo	H = flat crimp L = straight K = outside crimp	2 = 2.5 mm 5 = 5.0 mm