1. Collector 2. Base 3. Emitter



BC546/547/548/549/550

Switching and Applications

- High Voltage: BC546, V_{CEO}=65V
 Low Noise: BC549, BC550
 Complement to BC556 ... BC560
 - 1 ТО-92

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a =25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage : BC546	80	V
020	: BC547/550	50	V
	: BC548/549	30	V
V _{CEO}	Collector-Emitter Voltage : BC546	65	V
	: BC547/550	45	V
	: BC548/549	30	V
V_{EBO}	Emitter-Base Voltage : BC546/547	6	V
	: BC548/549/550	5	V
I _C	Collector Current (DC)	100	mA
P _C	Collector Power Dissipation	500	mW
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	-65 ~ 150	°C

Electrical Characteristics T_a =25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
I _{CBO}	Collector Cut-off Current	$V_{CB}=30V$, $I_{E}=0$			15	nA
h _{FE}	DC Current Gain	V _{CE} =5V, I _C =2mA	110		800	
V _{CE} (sat)	Collector-Emitter Saturation Voltage	I _C =10mA, I _B =0.5mA I _C =100mA, I _B =5mA		90 200	250 600	mV mV
V _{BE} (sat)	Base-Emitter Saturation Voltage	I _C =10mA, I _B =0.5mA I _C =100mA, I _B =5mA		700 900		mV mV
V _{BE} (on)	Base-Emitter On Voltage	V_{CE} =5V, I_{C} =2mA V_{CE} =5V, I_{C} =10mA	580	660	700 720	mV mV
f _T	Current Gain Bandwidth Product	V _{CE} =5V, I _C =10mA, f=100MHz		300		MHz
C _{ob}	Output Capacitance	V _{CB} =10V, I _E =0, f=1MHz		3.5	6	pF
C _{ib}	Input Capacitance	V _{EB} =0.5V, I _C =0, f=1MHz		9		pF
NF	Noise Figure : BC546/547/548	V _{CE} =5V, I _C =200μA		2	10	dB
	: BC549/550	$f=1KHz$, $R_G=2K\Omega$		1.2	4	dB
	: BC549	V_{CE} =5V, I_{C} =200 μ A		1.4	4	dB
	: BC550	R _G =2KΩ, f=30~15000MHz		1.4	3	dB

h_{FE} Classification

Classification	А	В	С
h _{FE}	110 ~ 220	200 ~ 450	420 ~ 800

Typical Characteristics

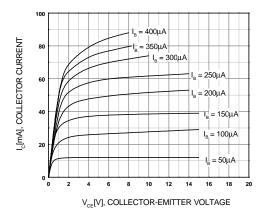


Figure 1. Static Characteristic

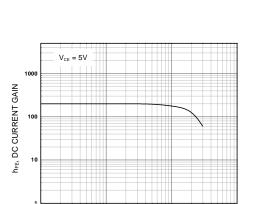


Figure 3. DC current Gain

I_c[mA], COLLECTOR CURRENT

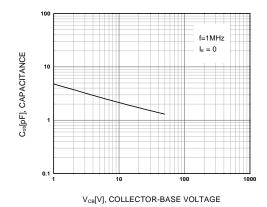


Figure 5. Output Capacitance

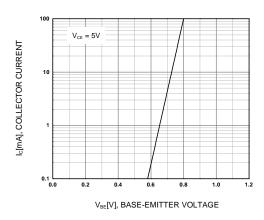


Figure 2. Transfer Characteristic

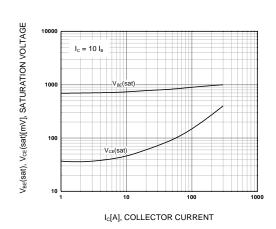


Figure 4. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

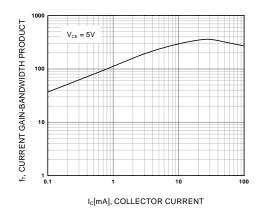
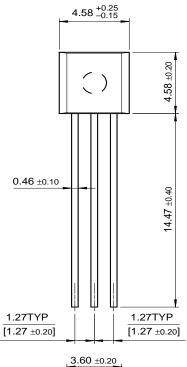


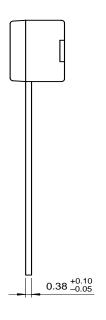
Figure 6. Current Gain Bandwidth Product

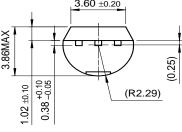
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Package Dimensions

TO-92







Dimensions in Millimeters

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CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS^{TM}	SyncFET™
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E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
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Across the board.	. Around the world.™	OCXPro™	RapidConnect™	UltraFET [®]
The Power Franchise™		OPTOLOGIC [®]	SILENT SWITCHER®	VCX^{TM}
Programmable Ad	ctive Droop™	OPTOPLANAR™	SMART START™	

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