

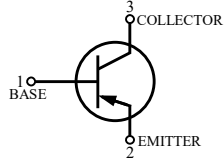
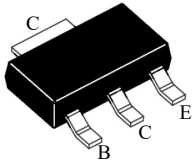


BCP53-10H / BCP53-16H

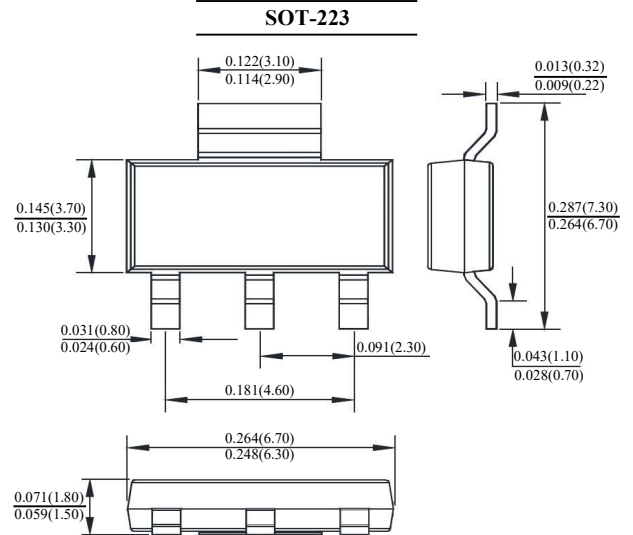
PNP TRANSISTORS

FEATURES

- Medium Power Transistor
- Suffix "H" indicates Halogen-free parts, ex. BCP53-10H



B	Base
C	Collector
E	Emitter



Dimensions in inches and (millimeter)

Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-100	V
Collector Emitter Voltage	V_{CEO}	-80	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-1	A
Peak Collector Current	I_{CM}	-1.5	A
Peak Base Current	I_{BM}	-0.2	A
Power Dissipation	P_{tot}	1.3	W
Thermal Resistance from Junction to Ambient (Note 1)	$R_{\theta JA}$	96	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Note:

1. Device mounted on FR4 substrate PC board, 2oz copper, with 1-inch square copper plate.



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Electrical Characteristics ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Current	$V_{CE} = -2\text{V}$, $I_C = -5\text{mA}$	h_{FE}	40	-	-	-
	$V_{CE} = -2\text{V}$, $I_C = -500\text{mA}$		25	-	-	
	BCP53-10H $V_{CE} = -2\text{V}$, $I_C = -150\text{mA}$		63	-	160	
	BCP53-16H		100	-	250	
Collector Base Cutoff Current	$V_{CB} = -30\text{V}$	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current	$V_{EB} = -5\text{V}$	I_{EBO}	-	-	100	nA
Collector Base Breakdown Voltage	$I_C = -100\mu\text{A}$	$V_{(BR)CBO}$	-100	-	-	V
Collector Emitter Breakdown Voltage	$I_C = -10\text{mA}$	$V_{(BR)CEO}$	-80	-	-	V
Emitter Base Breakdown Voltage	$I_E = -10\mu\text{A}$	$V_{(BR)EBO}$	-5	-	-	V
Collector Emitter Saturation Voltage	$I_C = -500\text{mA}$, $I_B = -50\text{mA}$	$V_{CE(sat)}$	-	-	-0.5	V
Base Emitter Voltage	$V_{CE} = -2\text{V}$, $I_C = -500\text{mA}$	V_{BE}	-	-	-1.0	V
Transition Frequency	$V_{CE} = -10\text{V}$, $I_C = -50\text{mA}$, $f = 100\text{MHz}$	f_T	-	125	-	MHz



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RATINGS AND CHARACTERISTIC CURVES

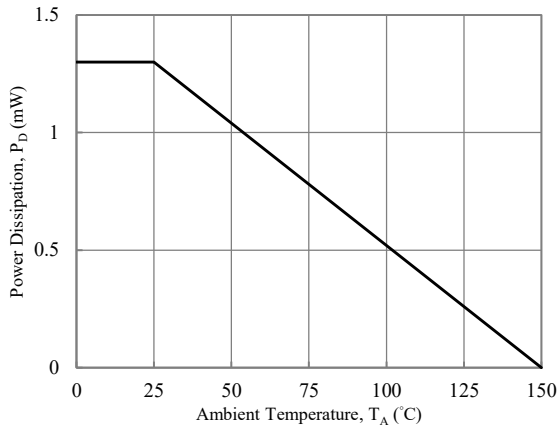


Fig. 1-Power Derating Curves

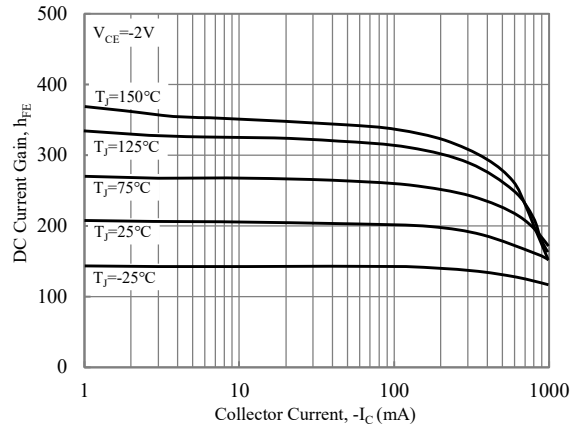


Fig. 2-Current Gain vs. Collector Current

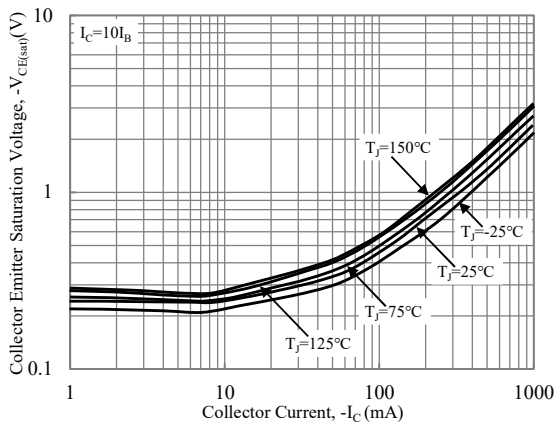


Fig. 3-Collector Emitter Saturation Voltage vs. Collector Current

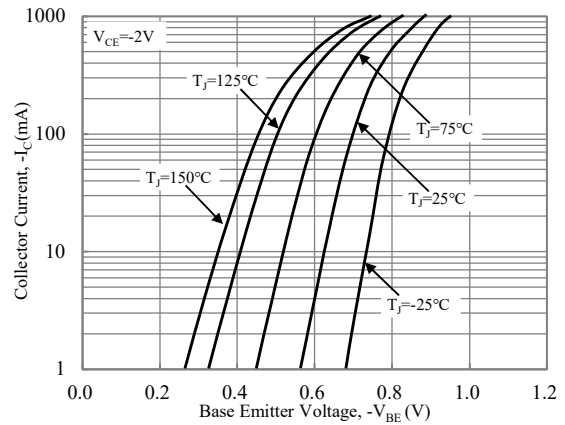


Fig. 4-Base Emitter Voltage vs. Collector Current

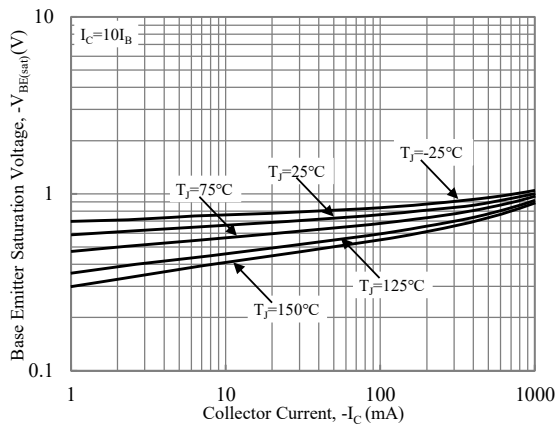


Fig. 5-Base Emitter Saturation Voltage vs. Collector Current

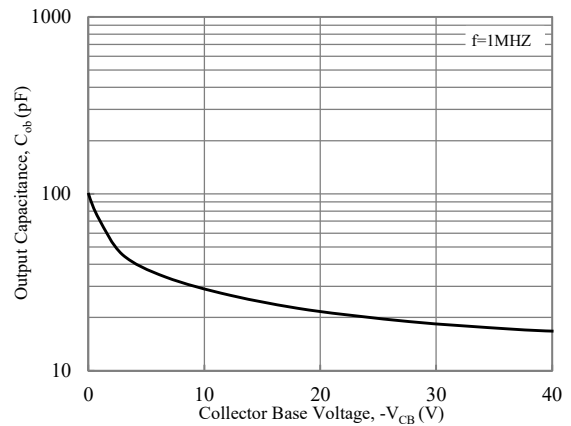


Fig. 6-Capacitance



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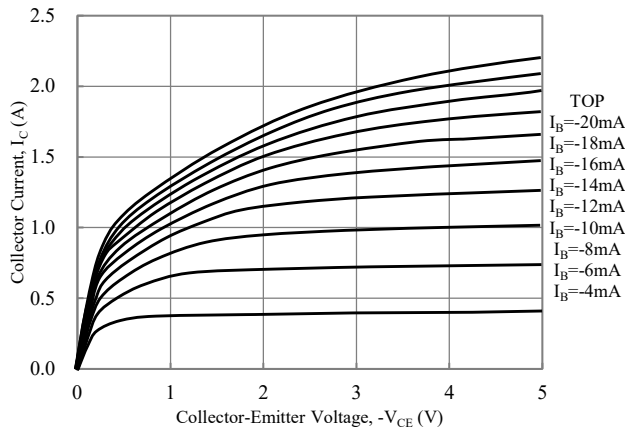


Fig. 7-Output Characteristics Curves

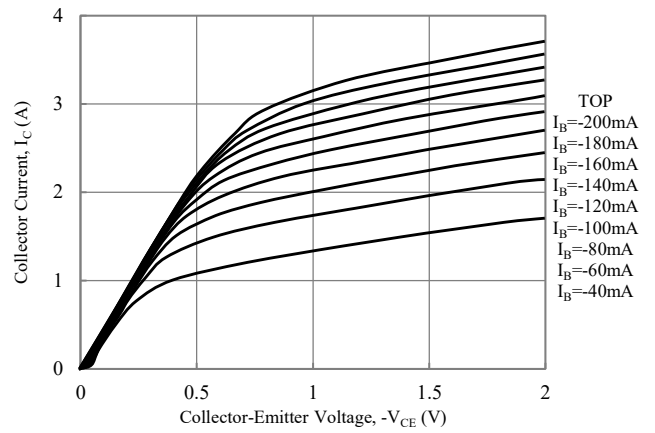


Fig. 8-Output Characteristics Curve