

Features

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings @ 25°C Unless Otherwise Specified

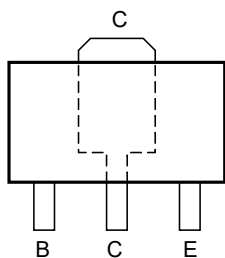
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 250°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-32	V
Emitter-Base Voltage	V_{EBO}	-5.0	V
Maximum Collector Current	I_{CM}	-2.0	A
Collector Power Dissipation	P_C	500	mW

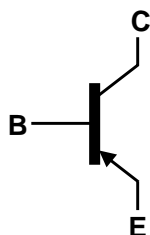
Classification Of h_{FE}

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	BCP	BCQ	BCR

Pin Configuration - Top View

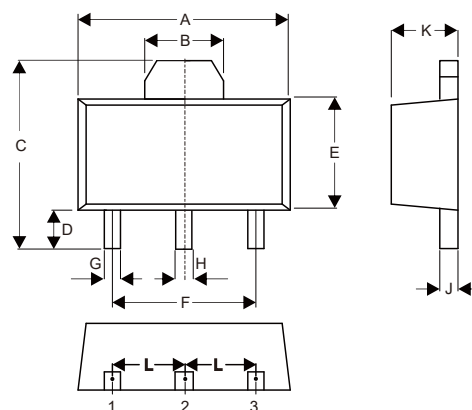


Internal Structure



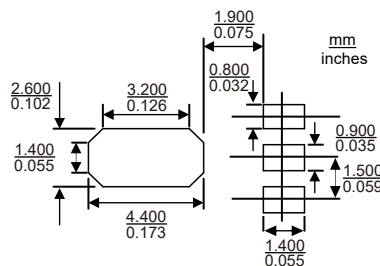
**PNP
Plastic Encapsulate
Transistors**

SOT-89



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.061		1.55		TYP.
C	0.154	0.171	3.91	4.35	
D	0.031	0.047	0.80	1.20	
E	0.089	0.104	2.25	2.65	
F	0.118		3.00		TYP.
G	0.013	0.020	0.33	0.52	
H	0.015	0.021	0.38	0.53	
J	0.014	0.017	0.35	0.44	
K	0.055	0.063	1.40	1.60	
L	0.059		1.50		TYP.

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40			V	$I_C = -50\mu A, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-32			V	$I_C = -1mA, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5.0			V	$I_E = -50\mu A, I_C = 0$
Collector-Base Cutoff Current	I_{CBO}			-1.0	μA	$V_{CB} = -20V, I_E = 0$
Emitter-Base Cutoff Current	I_{EBO}			-1.0	μA	$V_{EB} = -4.0V, I_C = 0$
DC Current Gain ^(Note1)	h_{FE}	82		390		$V_{CE} = -3.0V, I_C = -0.5A$
Collector-Emitter Saturation Voltage ^(Note1)	$V_{CE(sat)}$			-0.8	V	$I_C = -2A, I_B = -0.2A$
Transition Frequency	f_T		80		MHz	$V_{CE} = -5.0V, I_C = -0.5A, f = 30MHz$
Collector Output Capacitance	C_{ob}			65	pF	$V_{CB} = -10V, I_E = 0, f = 1.0MHz$

Note: 1.Measured Using Pulse Current.

Curve Characteristics

Fig. 1 - Static Characteristics

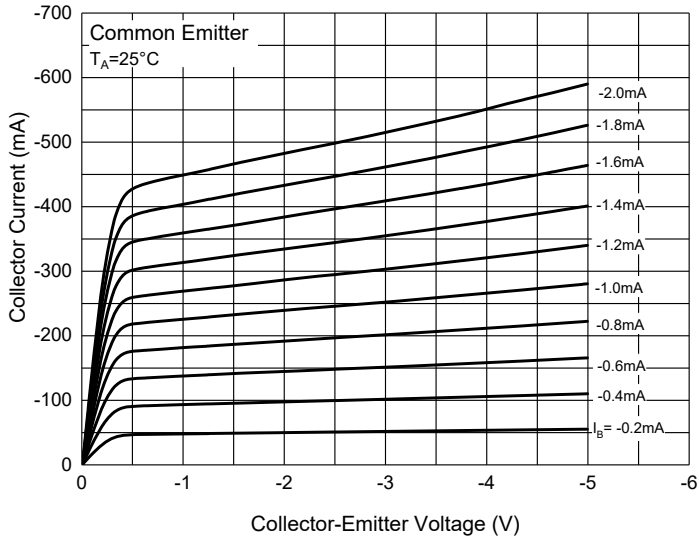


Fig. 2 - DC Current Gain Characteristics

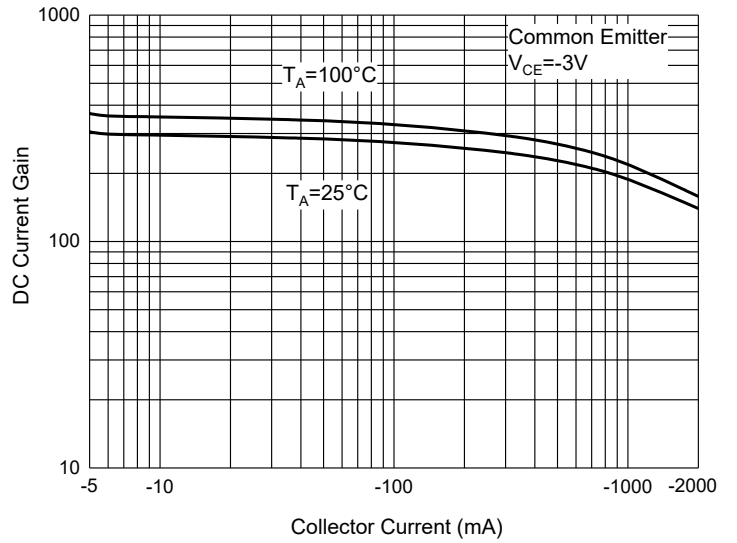


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

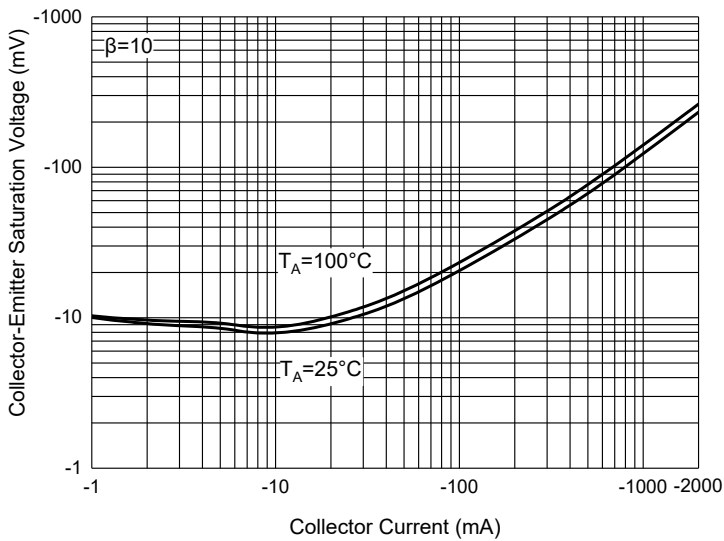


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

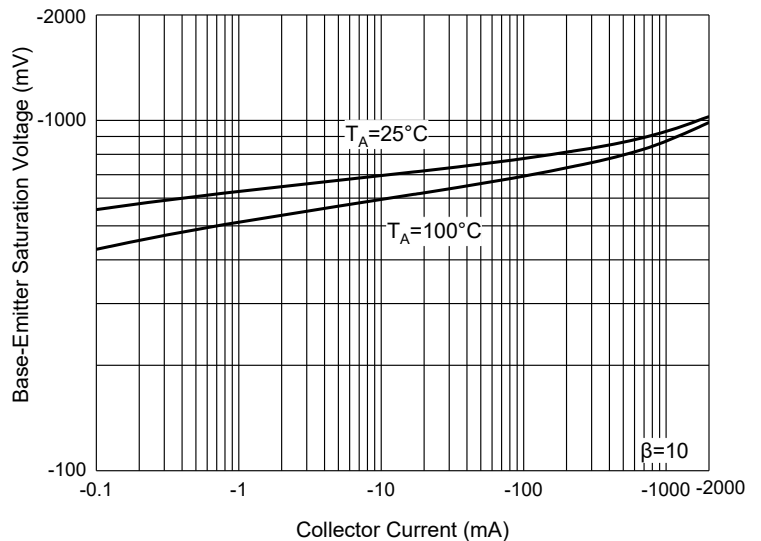


Fig. 5 - Base-Emitter Voltage Characteristics

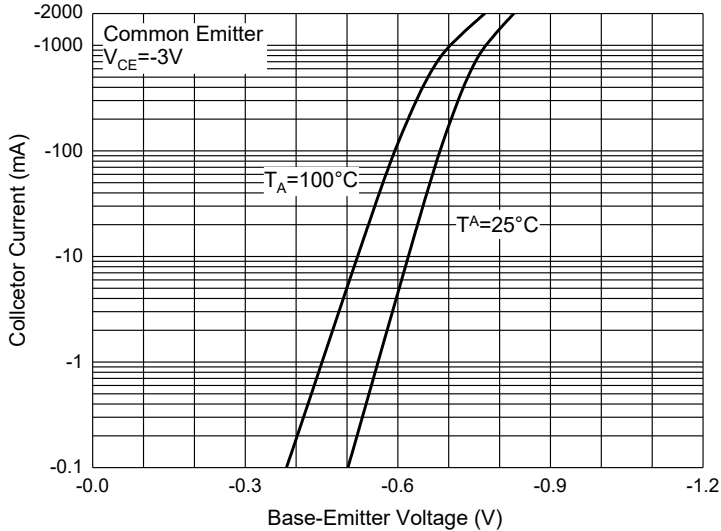
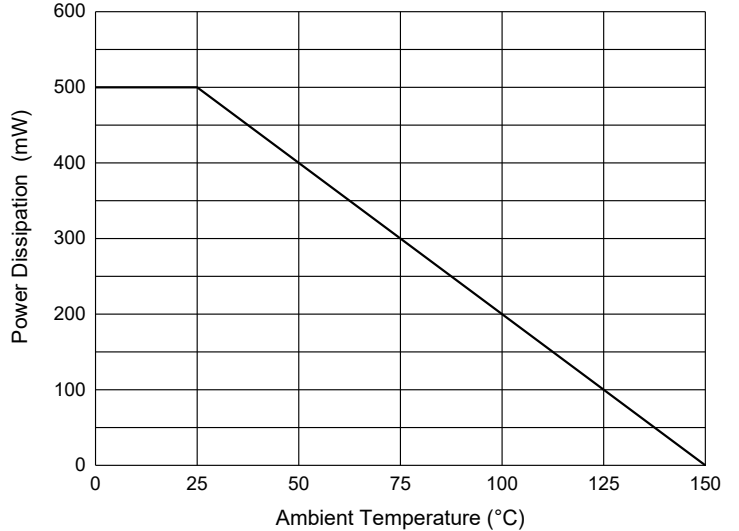


Fig. 6 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:1Kpcs/Reel

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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