

**Features**

- Halogen Free. "Green" Device (Note 1)
- 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)

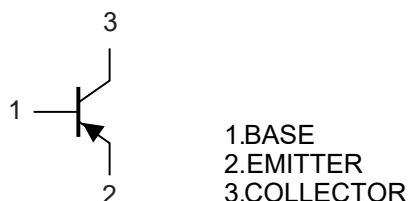
**Maximum Ratings @ 25°C Unless Otherwise Specified**

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 625°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-45	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Continuous Collector Current	$I_C$	-500	mA
Power Dissipation	$P_D$	200	mW

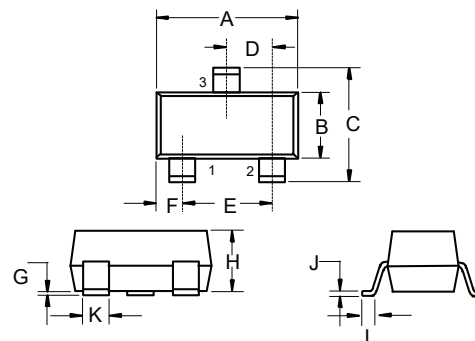
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**Internal Structure**



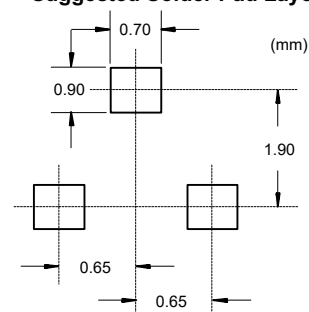
**PNP Silicon  
General Purpose  
Transistors**

**SOT-323**



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026		0.65		TYP.
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.044	0.90	1.10	
J	0.002	0.010	0.05	0.25	
K	0.006	0.016	0.15	0.40	
L	0.010	0.018	0.26	0.46	

**Suggested Solder Pad Layout**



**Electrical Characteristics @  $T_A=25^\circ\text{C}$  Unless Otherwise Specified**

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-50			V	$I_C=-10\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-45			V	$I_C=-10\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E=-1\mu\text{A}, I_C=0$
Collector Cutoff Current	$I_{CBO}$			-0.1	$\mu\text{A}$	$V_{CB}=-20\text{V}, I_E=0$
Collector Cutoff Current	$I_{CEO}$			-0.2	$\mu\text{A}$	$V_{CE}=-20\text{V}, I_B=0$
Emitter Cutoff Current	$I_{EBO}$			-0.1	$\mu\text{A}$	$V_{EB}=-5\text{V}, I_C=0$
DC Current Gain	$h_{FE(1)}$	100		600		$V_{CE}=-1\text{V}, I_C=-100\text{mA}$
	$h_{FE(2)}$	40				$V_{CE}=-1\text{V}, I_C=-500\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.7	V	$I_C=-500\text{mA}, I_B=-50\text{mA}$
Base-Emitter Voltage	$V_{BE}$			-1.2	V	$V_{CE}=-1\text{V}, I_C=-500\text{mA}$
Transition Frequency	$f_T$	80			MHz	$V_{CE}=-5\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$
Collector Capacitance	$C_C$			10	pF	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$

**Classification of  $h_{FE(1)}$** 

Rank	BC807-16W	BC807-25W	BC807-40W
Range	100-250	160-400	250-600
Marking	5A	5B	5C

**Curve Characteristics**

Fig. 1 - Static Characteristics

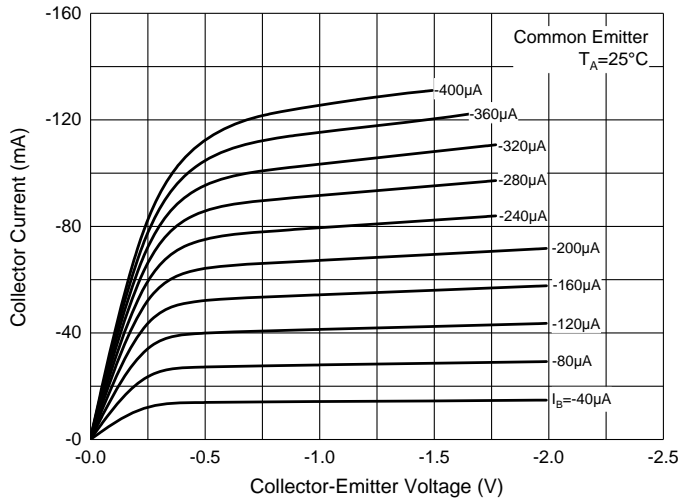


Fig. 2 - DC Current Gain Characteristics

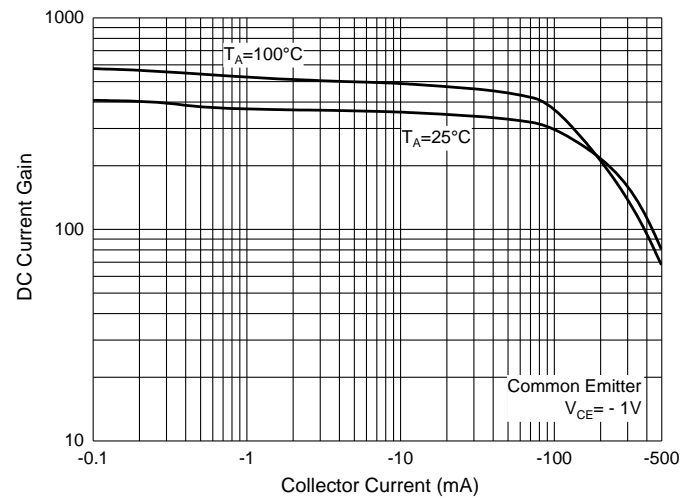


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

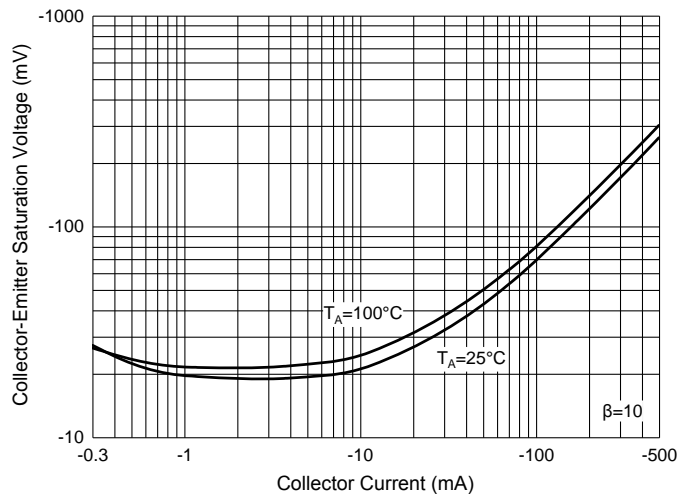


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

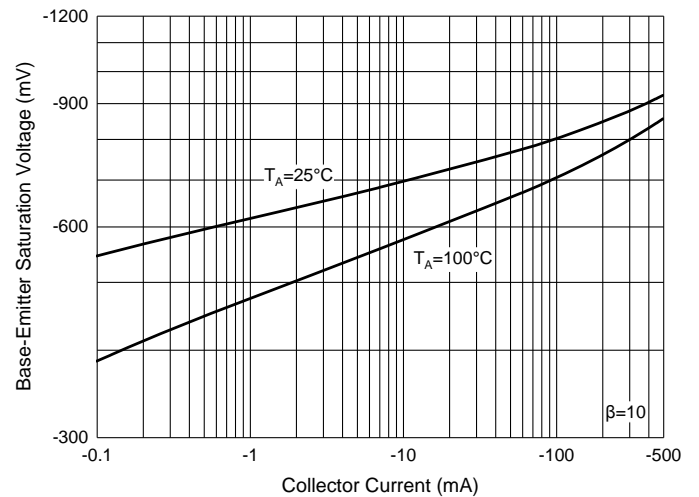


Fig. 5 - Base-Emitter Voltage Characteristics

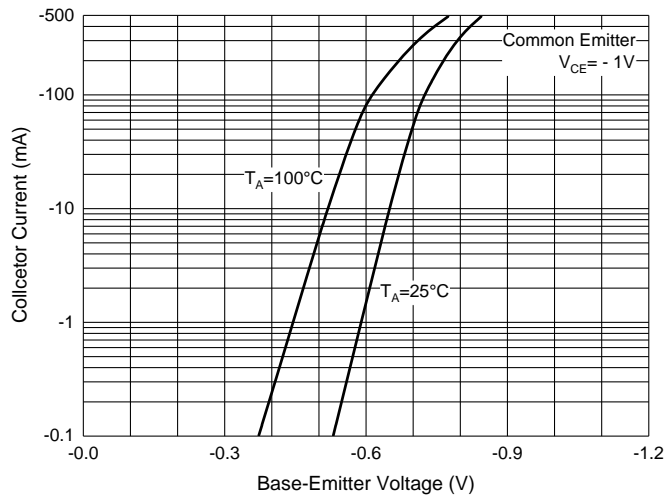
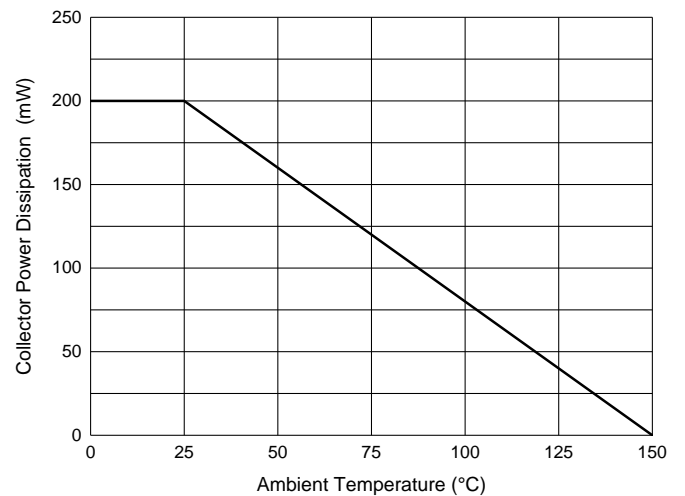


Fig. 6 - Collector Power Derating Curve



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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