

Features

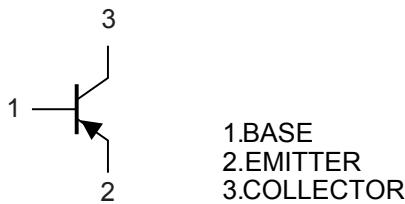
- Ideally Suited for Automatic Insertion
- Untral Small Surface Mount Package
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

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: 625°C/W Junction to Ambient

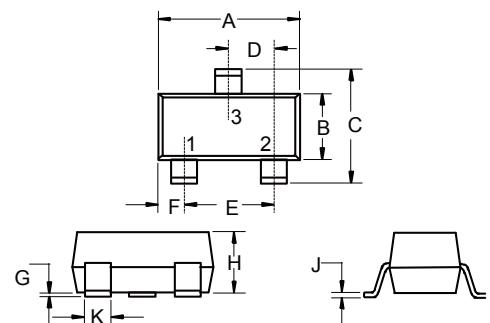
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-32	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-500	mA
Power Dissipation	P_D	200	mW

Internal Structure



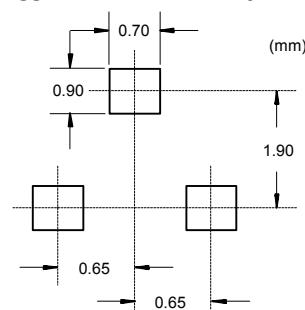
PNP Silicon Epitaxial Transistors

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	

Suggested Solder Pad Layout



Electrical Characteristics @ $T_A=25^\circ C$ Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40			V	$I_C=-100\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-32			V	$I_C=-1mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E=-100\mu A, I_C=0$
Collector Cutoff Current	I_{CBO}			-1	μA	$V_{CB}=-20V, I_E=0$
Emitter Cutoff Current	I_{EBO}			-1	μA	$V_{EB}=-4V, I_C=0$
DC Current Gain	h_{FE}	82		390		$V_{CE}=-3V, I_C=-10mA$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.4	V	$I_C=-100mA, I_B=-10mA$
Transition Frequency	f_T		200		MHz	$V_{CE}=-5V, I_C=-20mA, f=100MHz$
Output Capacitance	C_{ob}		7		pF	$V_{CB}=-10V, I_E=0, f=1MHz$

Classification of h_{FE}

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	HP	HQ	HR

Curve Characteristics

Fig. 1 - Static Characteristics

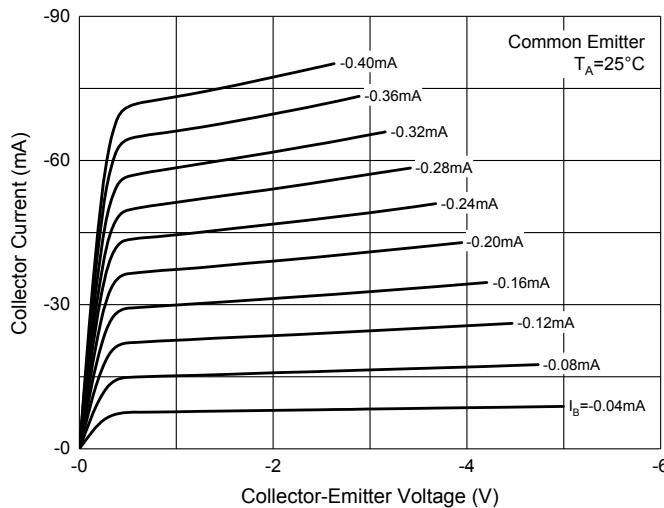


Fig. 2 - DC Current Gain Characteristics

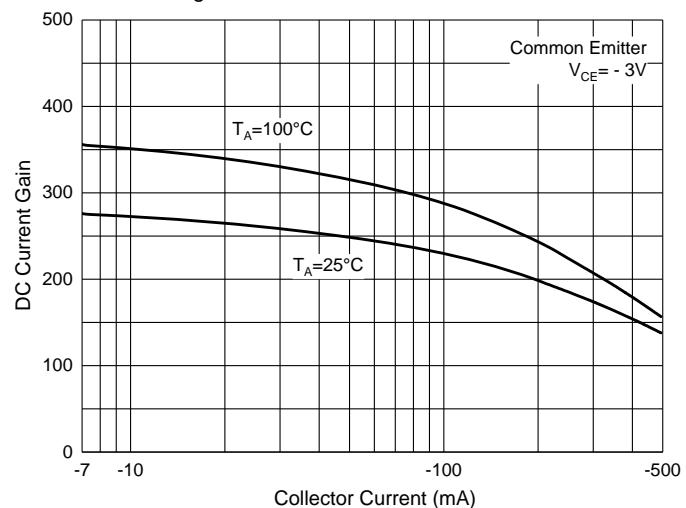


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

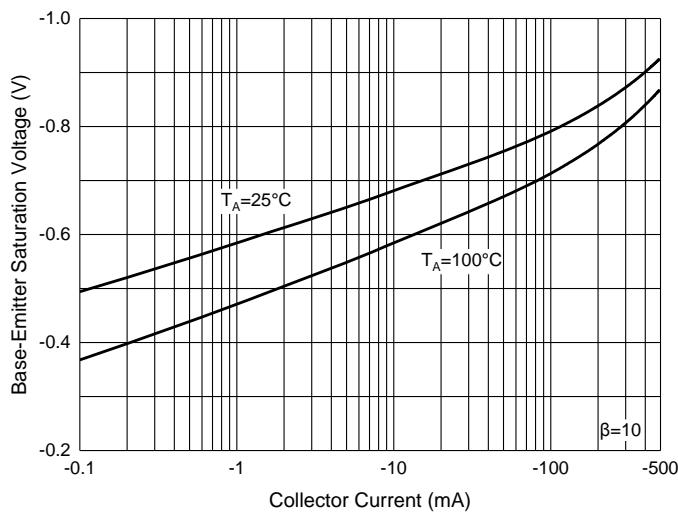


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

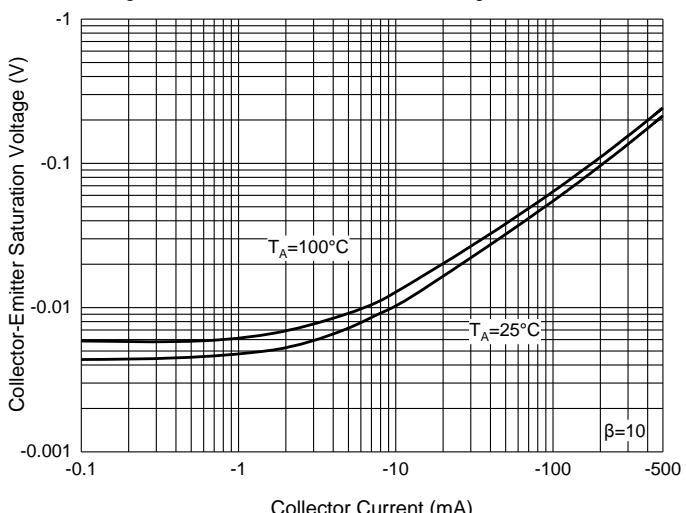


Fig. 5 - Base-Emitter Voltage Characteristics

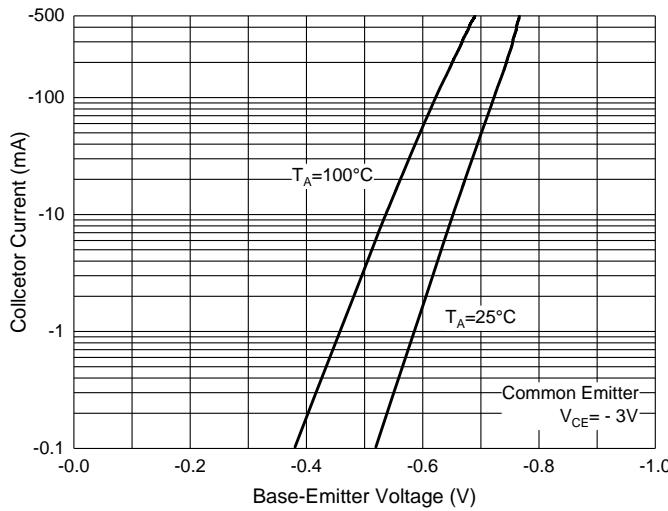
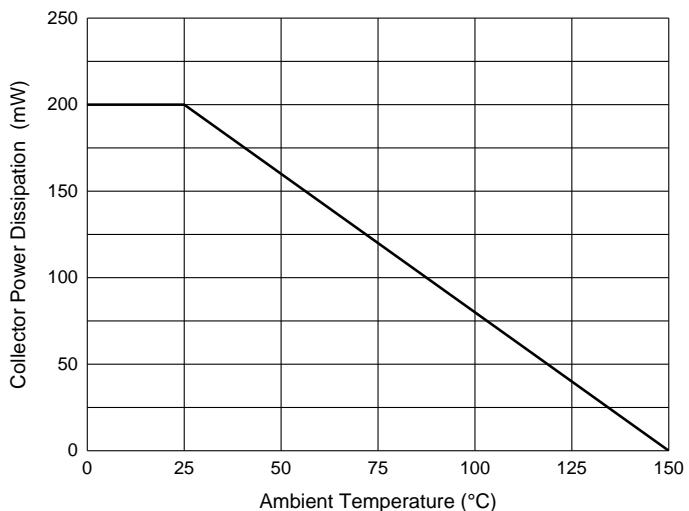


Fig. 6 - Collector Power Derating Curve



Ordering Information

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

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

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