

Features

- Small Reverse Transfer Capacitance
- 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)

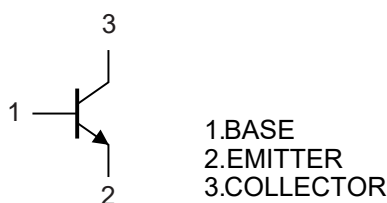
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 1250°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	4	V
Continuous Collector Current	I_C	20	mA
Power Dissipation	P_D	100	mW

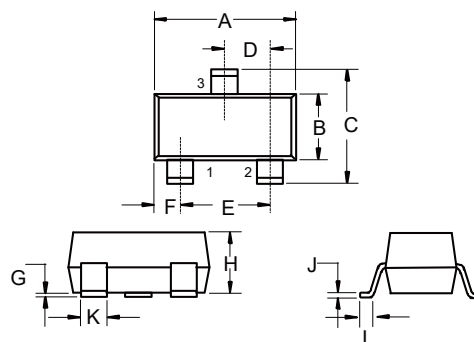
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure



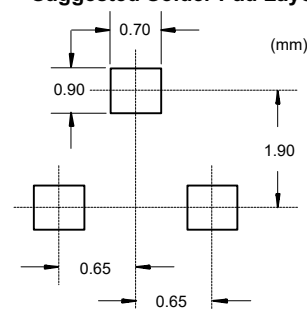
NPN Silicon Epitaxial Transistors

SOT-323



DIMENSIONS					
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	$V_{(BR)CBO}$	40			V	$I_C=100\mu\text{A}$, $I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	$I_C=1\text{mA}$, $I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	4			V	$I_E=100\mu\text{A}$, $I_C=0$
Collector Cutoff Current	I_{CBO}			0.1	μA	$V_{CB}=40\text{V}$, $I_E=0$
Emitter Cutoff Current	I_{EBO}			0.5	μA	$V_{EB}=4\text{V}$, $I_C=0$
DC Current Gain	h_{FE}	40		200		$V_{CE}=6\text{V}$, $I_C=1\text{mA}$
Transition Frequency	f_T	260	550		MHz	$V_{CE}=6\text{V}$, $I_C=1\text{mA}$
Collector-Base Time Constant	$C_{C\text{ rbb}}$			25	ps	$V_{CE}=6\text{V}$, $I_C=1\text{mA}$, $f=30\text{MHz}$
Reverse Transfer Capacitance	C_{re}		0.55		pF	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$
Noise Figure	N_F		2	5	dB	$V_{CC}=6\text{V}$, $I_C=1\text{mA}$, $f=100\text{MHz}$

Classification of h_{FE}

Rank	R	O	Y
Range	40-80	70-140	100-200
Marking	QR	QO	QY

Curve Characteristics

Fig. 1 - Static Characteristics

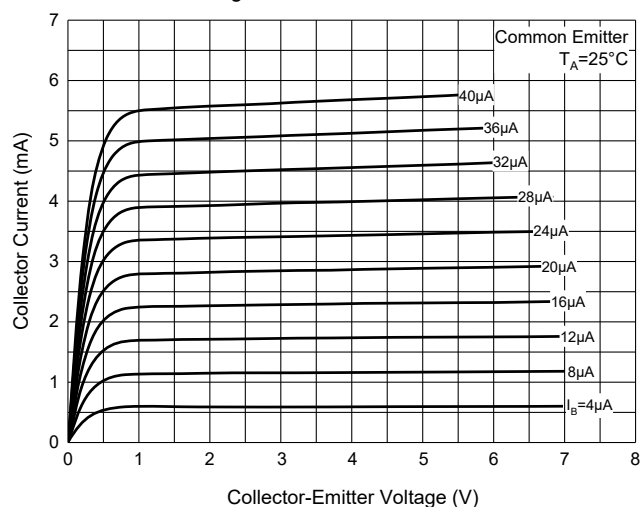


Fig. 2 - DC Current Gain Characteristics

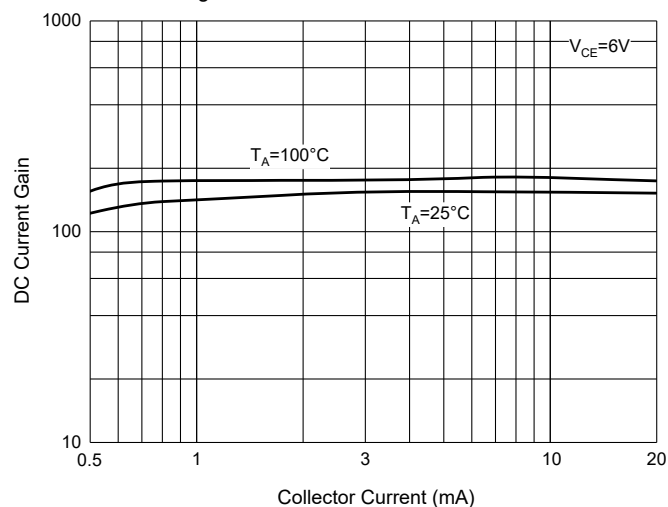


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

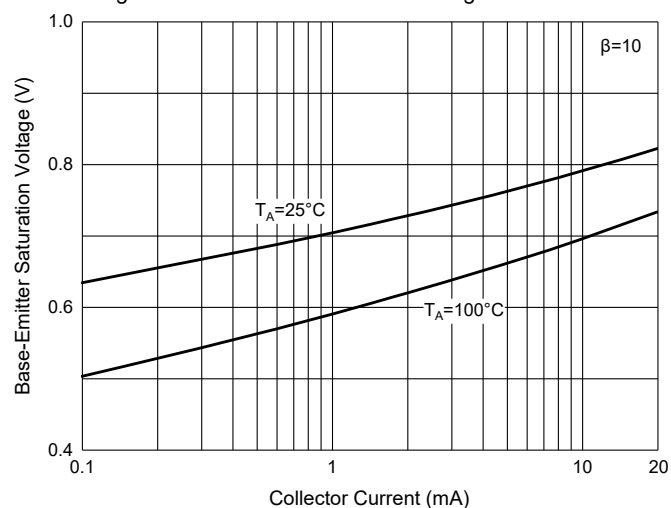


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

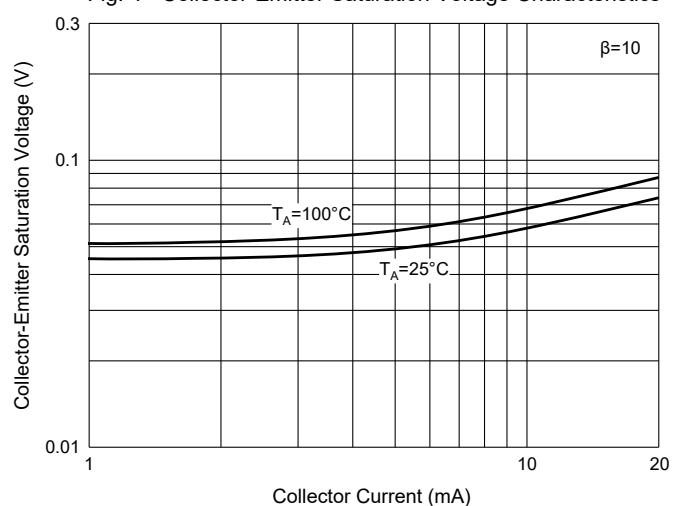


Fig. 5 - Base-Emitter Voltage Characteristics

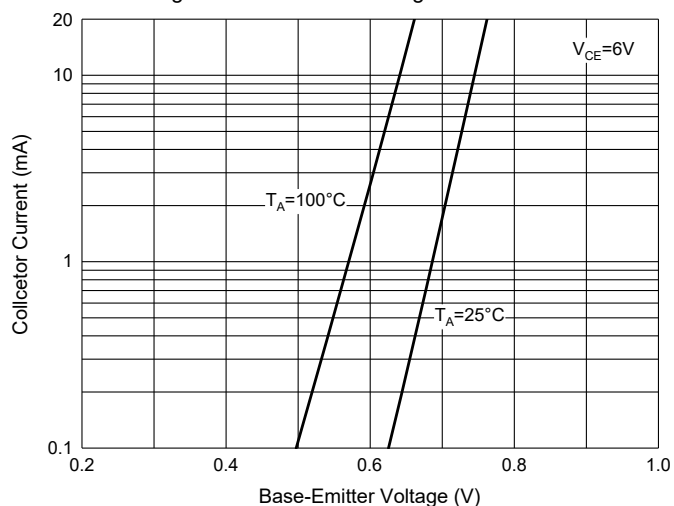
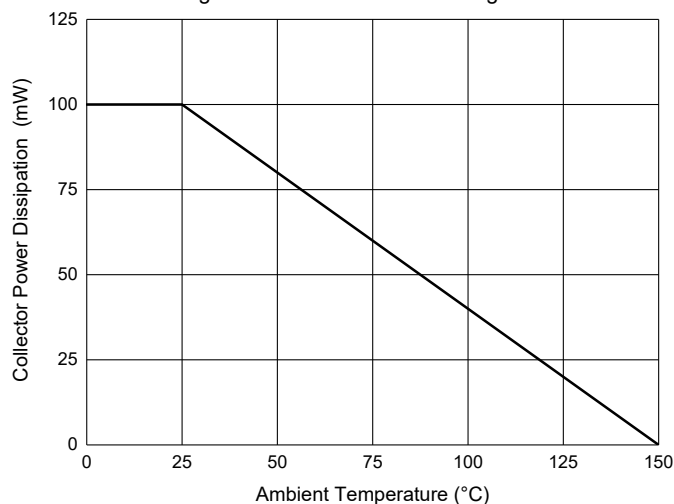


Fig. 6 - Collector Power Derating Curve



Ordering Information

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

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