PNP Small Signal Transistor

Features

- Ideally Suited for Automatic Insertion
- Low Current, Low Voltage
- Epitaxial Planar Die Construction
- 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

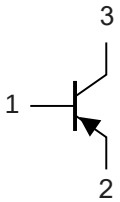
- Operating Junction Temperature Range: -55℃ to +150℃
- Storage Temperature Range: -55℃ to +150℃
- Thermal Resistance: 285℃/W Junction to Ambient(Note 2)
- Thermal Resistance: 215℃/W Junction to Soldering Point

Parameter		Symbol	Rating	Unit
Collector-Base Voltage		V_{CBO}	-60	V
Collector-Emitter Voltage		V_{CEO}	-45	V
Emitter-Base Voltage		V_{EBO}	-5	V
Continuous Collector Current		I_C	-800	mA
Peak Collector Current		I_{CM}	-1000	mA
Continuous Base Current		I_B	-100	mA
Peak Base Current		I_{BM}	-200	mA
Power Dissipation	T_S=79°C	P_D	330	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.
2. Valid Provided that Leads are Kept at Ambient Temperature.

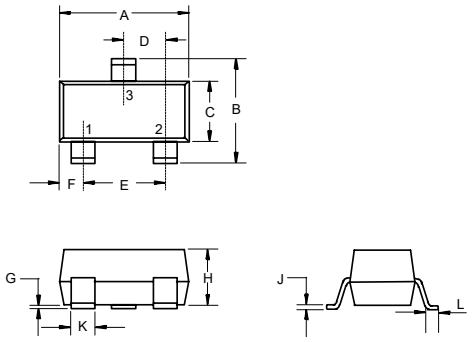
Marking: DG

Internal Structure



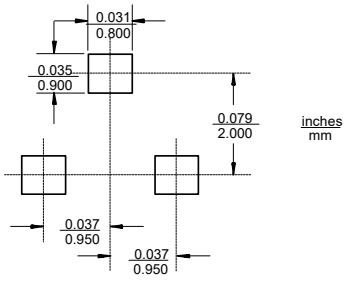
1.BASE
2.EMITTER
3.COLLECTOR

SOT-23



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.012	0.020	0.30	0.51	
L	0.007	0.020	0.20	0.50	

Suggested Solder Pad Layout



Electrical Characteristics @ T_A=25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-60			V	I_C=-10μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-45			V	I_C=-10mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	I_E=-10μA, I_C=0
Collector-Base Cutoff Current	I_{CBO}			-20	nA	V_{CB}=-45V, I_E=0
				-20	μA	V_{CB}=-45V, I_E=0, T_A=150°C
Emitter-Base Cutoff Current	I_{EBO}			-20	nA	V_{EB}=-4V, I_C=0
DC Current Gain	$h_{FE(1)}$	50				V_{CE}=-10V, I_C=-100μA
	$h_{FE(2)}$	120				V_{CE}=-1V, I_C=-10mA
	$h_{FE(3)}$	160	250	400		V_{CE}=-1V, I_C=-100mA
	$h_{FE(4)}$	60				V_{CE}=-2V, I_C=-500mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.3	V	I_C=-100mA, I_B=-10mA
				-0.7	V	I_C=-500mA, I_B=-50mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-1.25	V	I_C=-100mA, I_B=-10mA
				-2.0	V	I_C=-500mA, I_B=-50mA
Transition Frequency	f_T		200		MHz	V_{CE}=-5V,I_C=-50mA,f=100MHz
Collector-Base Capacitance	C_{CB}		6		pF	V_{CB}=-10V, f=1MHz
Emitter-Base Capacitance	C_{EB}		60		pF	V_{EB}=-0.5V, f=1MHz

Curve Characteristics

Fig. 1 - Static Characteristics

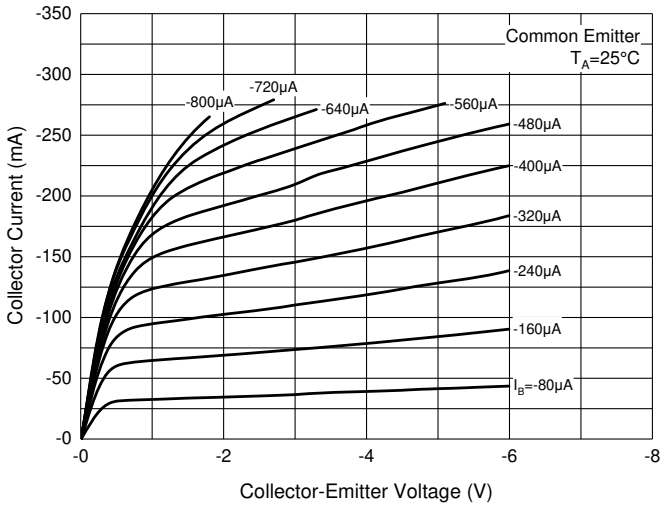


Fig. 2 - DC Current Gain Characteristics

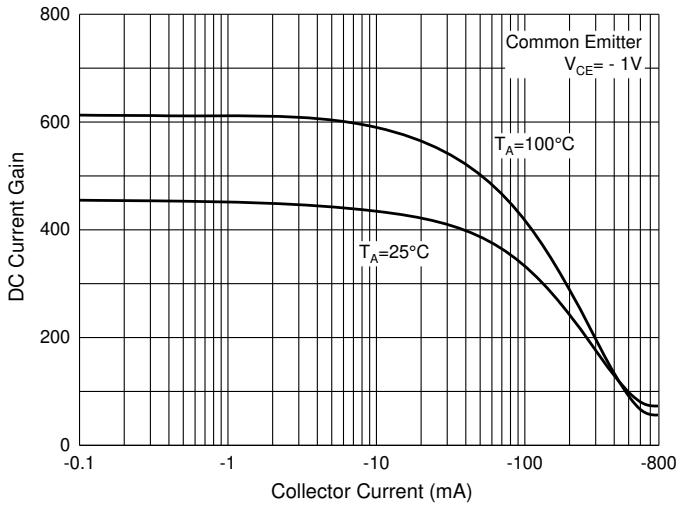


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

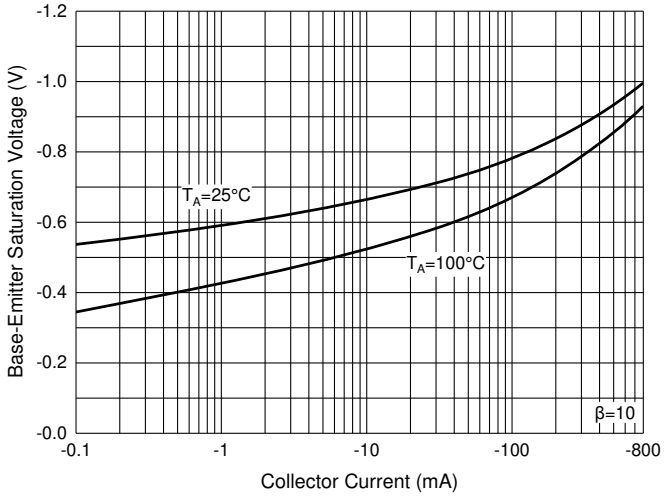


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

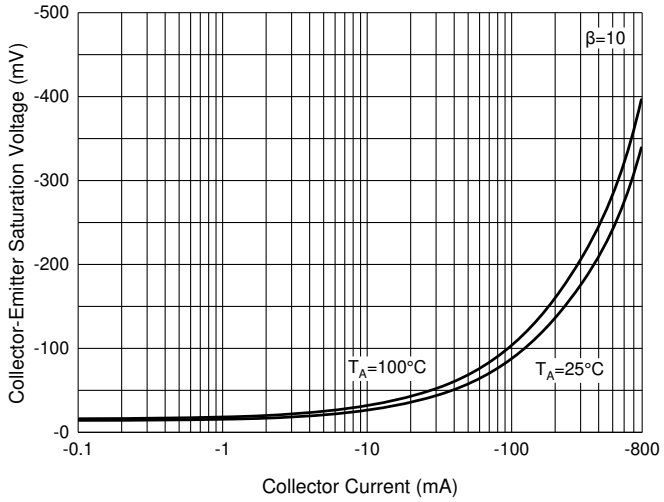
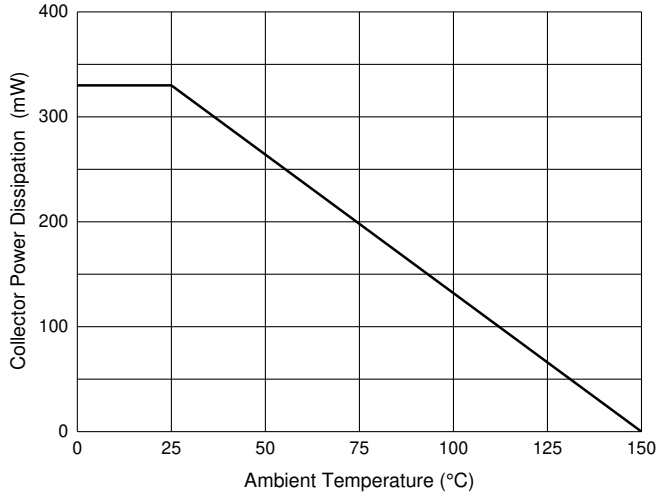


Fig. 5 - Collector Power Derating Curve



Ordering Information

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