PNP General Purpose Amplifier

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℃ to +150℃
- Storage Temperature Range: -55℃ to +150℃
- Thermal Resistance: 357℃/W Junction to Ambient (Note 2)

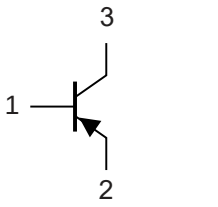
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-600	mA
Power Dissipation	P_D	350	mW

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.For the Device Mounted on 15mm x 15mm x 1.6mm FR4 PCB with High Coverage of Single Sided 1oz Copper, in Still Air Conditions.

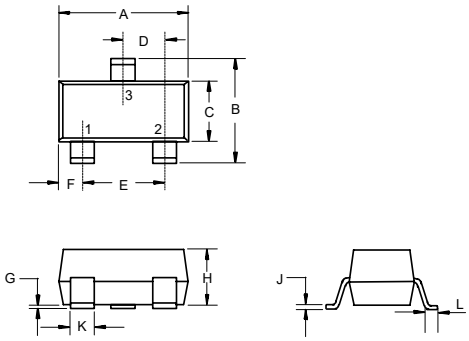
Marking: 2T

Internal Structure



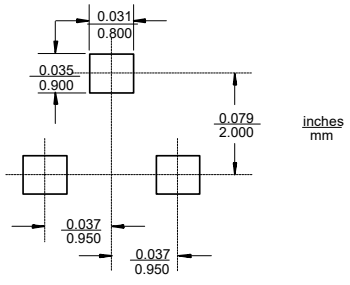
1.BASE
2.EMITTER
3.COLLECTOR

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	$V_{(BR)CBO}$	-40			V	I_C=-100μA, I_E=0
Collector-Emitter Breakdown Voltage(3)	$V_{(BR)CEO}$	-40			V	I_C=-1mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	I_E=-100μA, I_C=0
Base Cutoff Current	I_{BL}			-0.1	μA	V_{CE}=-30V, V_{BE}=-3V
Collector Cutoff Current	I_{CEX}			-0.1	μA	V_{CE}=-30V, V_{BE}=-3V
DC Current Gain(3)	$h_{FE(1)}$	30				V_{CE}=-1V, I_C=-0.1mA
	$h_{FE(2)}$	60				V_{CE}=-1V, I_C=-1mA
	$h_{FE(3)}$	100				V_{CE}=-1V, I_C=-10mA
	$h_{FE(4)}$	100		300		V_{CE}=-2V, I_C=-150mA
	$h_{FE(5)}$	20				V_{CE}=-2V, I_C=-500mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.4	V	I_C=-150mA, I_B=-15mA
				-0.75	V	I_C=-500mA, I_B=-50mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.75	-0.95	V	I_C=-150mA, I_B=-15mA
				-1.3	V	I_C=-500mA, I_B=-50mA
Transition Frequency	f_T	200			MHz	V_{CE}=-10V, I_C=-20mA, f=100MHz
Delay Time	t_d			15	ns	V_{CC}=-30V, V_{BE}=-0.5V, I_C=-150mA, I_{B1}=-15mA
Rise Time	t_r			20	ns	
Storage Time	t_s			225	ns	V_{CC}=-30V, I_C=-150mA, I_{B1}=I_{B2}=-15mA
Fall Time	t_f			30	ns	
Collector-Base Capacitance	C_{cb}			8.5	pF	V_{CB}=-10V, I_E=0,f=1MHz
Emitter-Base Capacitance	C_{eb}			30	pF	V_{EB}=-0.5V, I_C=0, f=1MHz

Note :3. Pulse test: Pulse Width≤300μs,Duty Cycle≤2.0%.

Curve Characteristics

Fig. 1 - Static Characteristics

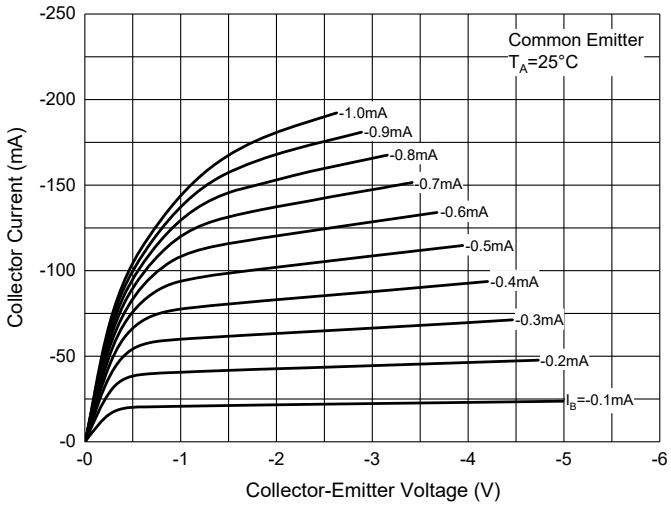


Fig. 2 - DC Current Gain Characteristics

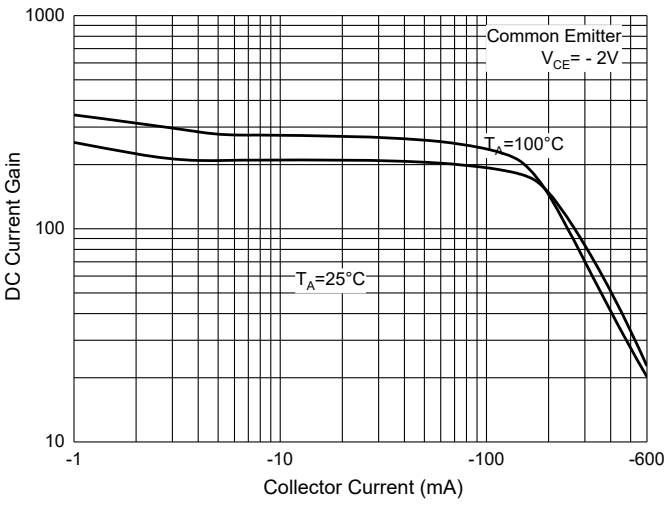


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

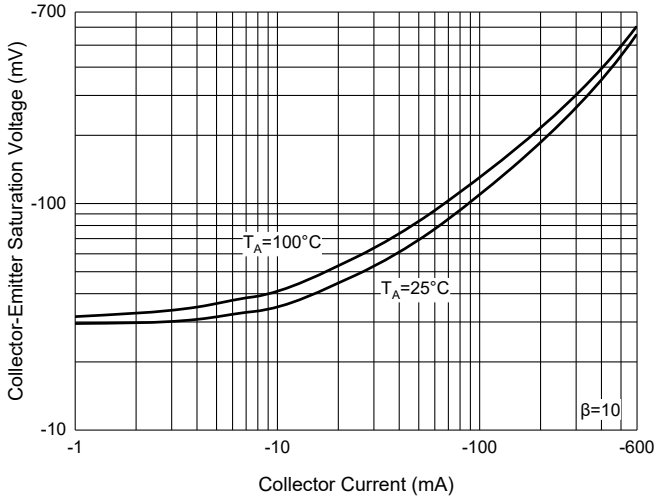


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

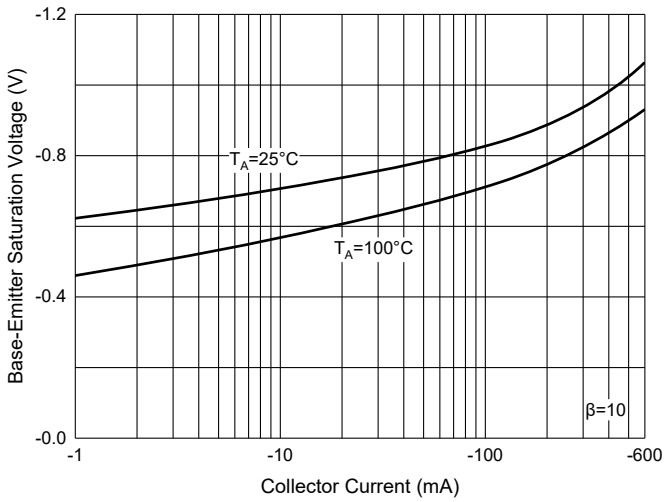


Fig. 5 - Base-Emitter Voltage Characteristics

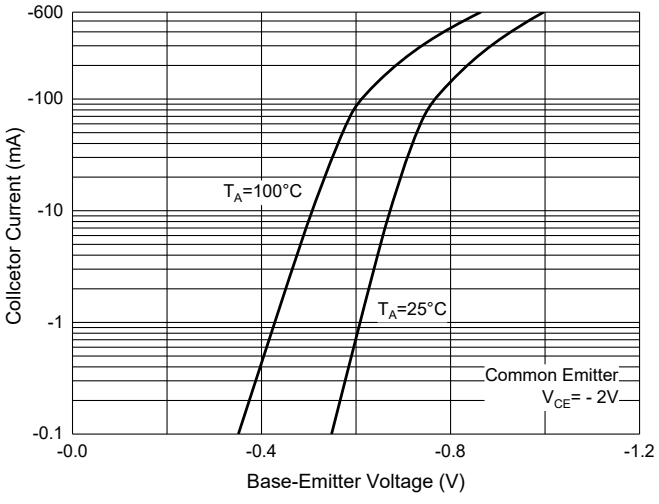
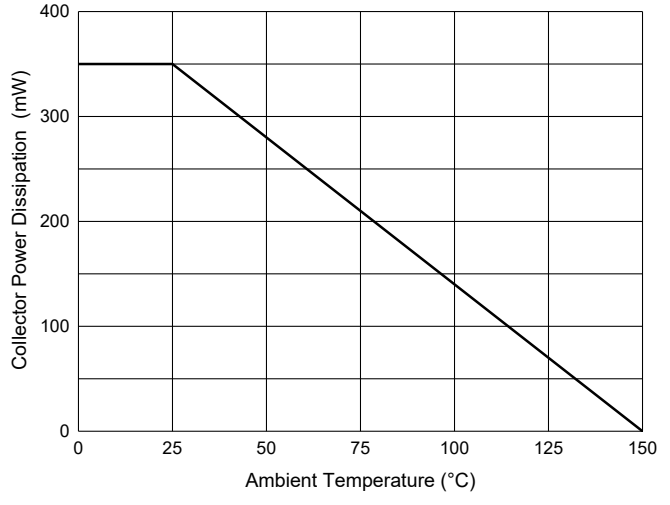


Fig. 6 - Collector Power Derating Curve



Ordering Information

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