

# **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)

# NPN Plastic Encapsulate Transistor

# **Maximum Ratings**

• Operating Junction Temperature Range: -55°C to +150°C

Storage Temperature Range: -55°C to +150°C

Thermal Resistance: 417°C/W Junction to Ambient

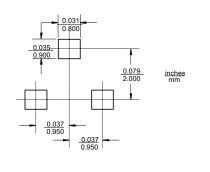
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CBO</sub>	180	V
Collector-Emitter Voltage	V <sub>CEO</sub>	160	V
Emitter-Base Voltage	V <sub>EBO</sub>	6	V
Collector Current	I <sub>C</sub>	600	mA
Collector Power Dissipation	Pc	300	mW

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

# SOT-23

DIMENSIONS					
DIM	INCHES		MM		NOTE
DIIVI	MIN	MAX	MIN	MAX	NOTE
Α	0.110	0.120	2.80	3.04	
В	0.083	0.104	2.10	2.64	
С	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	
Н	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.014	0.020	0.35	0.51	
L	0.007	0.020	0.20	0.50	

## Suggested Solder Pad Layout



# **Internal Structure**



Marking: G1

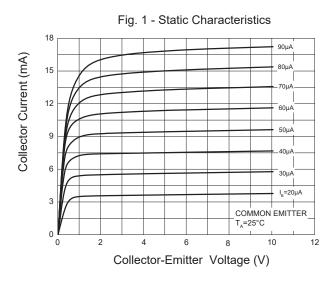


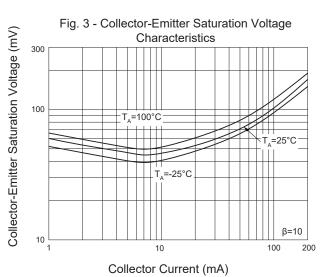
# Electrical Characteristics @ 25°C Unless Otherwise Specified

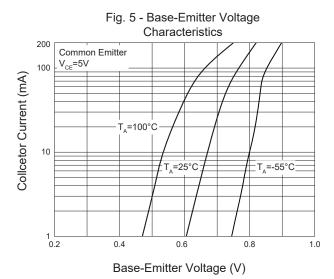
Parameter	Symbol	Min	Тур	Max	Units	Conditions
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	180			V	I <sub>C</sub> =100μA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	160			V	I <sub>C</sub> =1mA, I <sub>B</sub> =0
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	6			V	I <sub>E</sub> =10μA, I <sub>C</sub> =0
Collector Cutoff Current	I <sub>CBO</sub>			50	nA	V <sub>CB</sub> =120V, I <sub>E</sub> =0
Emitter-Base Cutoff Current	I <sub>EBO</sub>			50	nA	$V_{EB}$ =4V, $I_C$ =0
DC Current Gain	h <sub>FE1</sub>	80				V <sub>CE</sub> =5V, I <sub>C</sub> =1.0mA
	h <sub>FE2</sub>	100		300		V <sub>CE</sub> =5V, I <sub>C</sub> =10mA
	h <sub>FE3</sub>	50				$V_{CE}$ =5V, $I_{C}$ =50mA
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>			0.2	V	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>			1.0	V	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA
Transition Frequency	f <sub>T</sub>	100		300	MHz	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA, f=30MHz

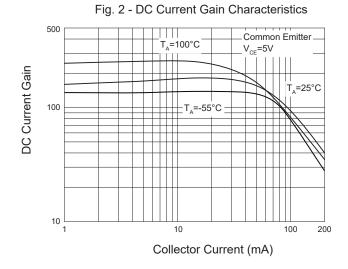


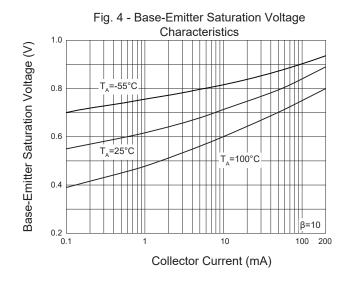
# **Curve Characteristics**

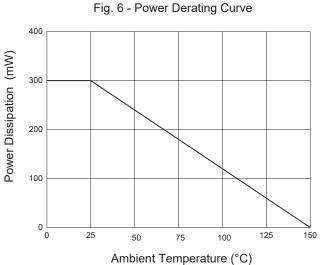














# **Ordering Information**

Device	Packing		
Part Number-TP	Tape&Reel: 3Kpcs/Reel		
Part Number-13P	Tape&Reel: 10Kpcs/Reel		

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