

**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**

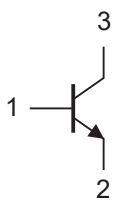
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	170	V
Collector-Emitter Voltage	$V_{CEO}$	150	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Continuous Collector Current	$I_C$	1	A
Power Dissipation	$P_D$	300	mW

**Thermal characteristics**

Parameter	Symbol	Rating	Unit
Junction Temperature Range	$T_J$	-55~+150	°C
Storage Temperature Range	$T_{STG}$	-55~+150	°C
Thermal Resistance from Junction to Ambient	$R_{th(J-A)}$	417	°C/W

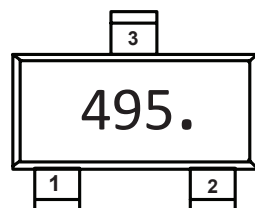
Note:  
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**Internal Structure**



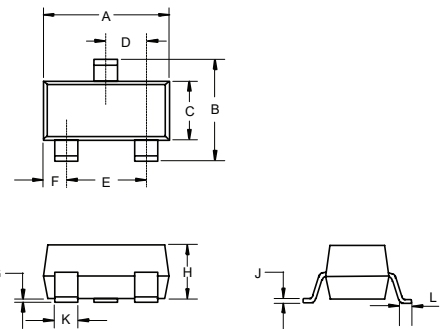
- 1.BASE
- 2.EMITTER
- 3.COLLECTOR

**Marking Code**



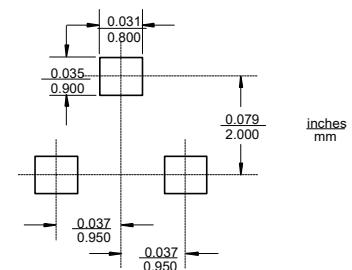
**NPN Silicon Planar  
Medium Power  
Transistor**

**SOT-23**



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	

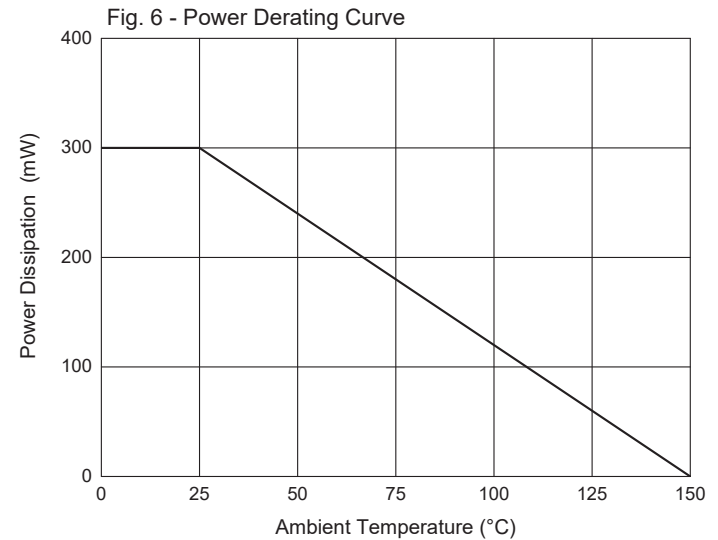
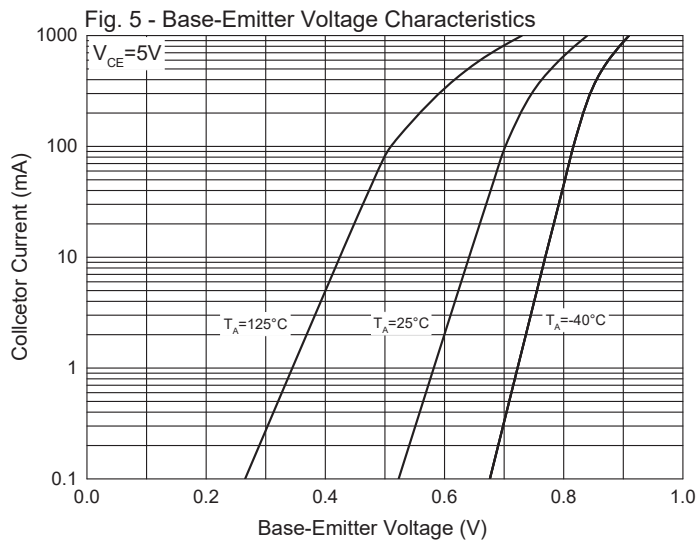
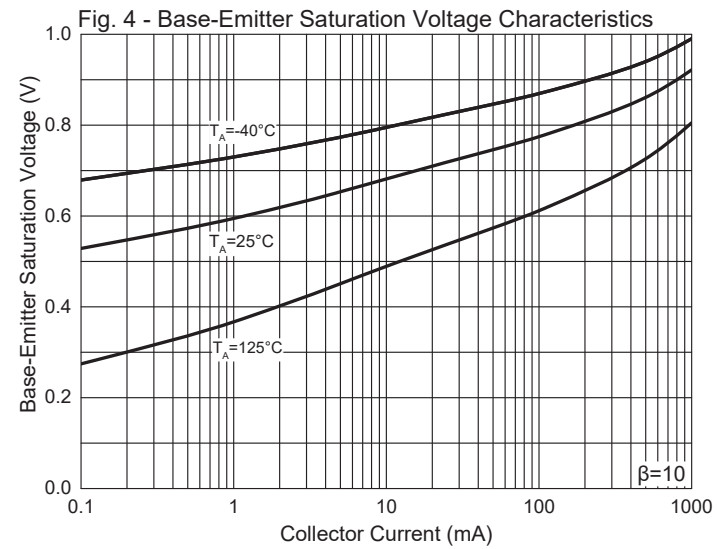
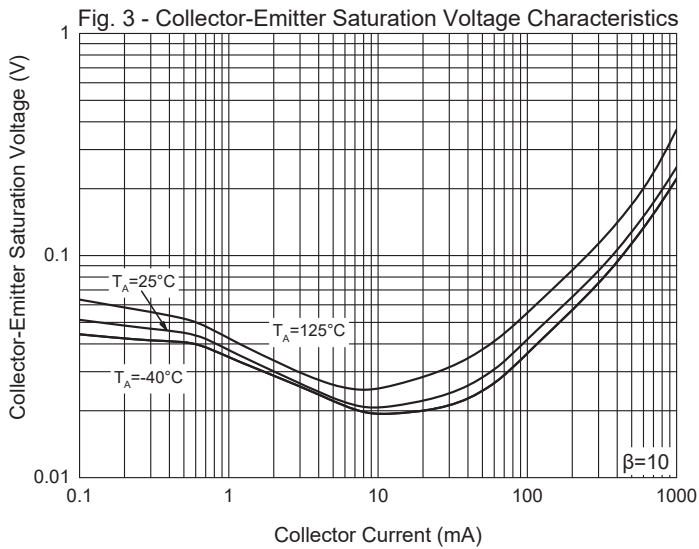
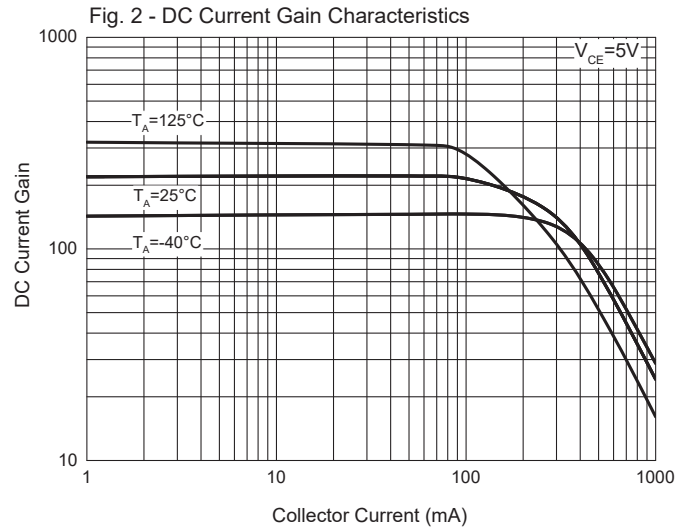
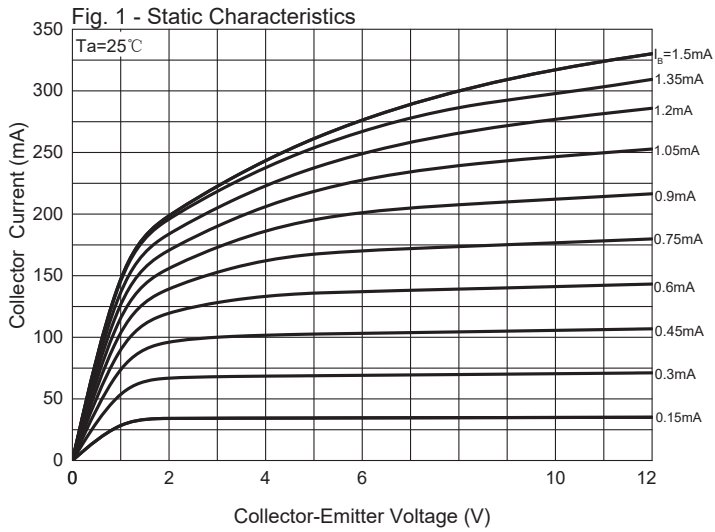
**Suggested Solder Pad Layout**



**Electrical Characteristics @  $T_A=25^\circ\text{C}$  Unless Otherwise Specified**

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	170			V	$I_C=100\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	150			V	$I_C=10\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	7			V	$I_E=10\mu\text{A}, I_C=0$
Collector-Base Cutoff Current	$I_{CBO}$			0.1	$\mu\text{A}$	$V_{CB}=150\text{V}, I_E=0$
Emitter-Base Cutoff Current	$I_{EBO}$			0.1	$\mu\text{A}$	$V_{EB}=5\text{V}, I_C=0$
DC Current Gain	$h_{FE}$	160		320		$V_{CE}=5\text{V}, I_C=200\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.2	V	$I_C=250\text{mA}, I_B=25\text{mA}$
				0.3	V	$I_C=500\text{mA}, I_B=50\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.0	V	$I_C=500\text{mA}, I_B=50\text{mA}$
Base-Emitter Turn On Voltage	$V_{BE(on)}$			0.8	V	$V_{CE}=5\text{V}, I_C=5\text{mA}$
Transition Frequency	$f_T$	140			MHz	$V_{CE}=5\text{V}, I_C=200\text{mA}, f=100\text{MHz}$
Output Capacitance	$C_{ob}$			10	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$

**Curve Characteristics**



## Ordering Information

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

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