

**Features**

- High Current and Low Voltage
- 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**

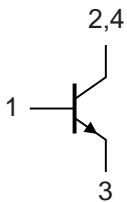
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 125°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	32	V
Collector-Emitter Voltage	$V_{CEO}$	20	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	1	A
Power Dissipation	$P_D$	1	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.

**Marking: BCP68-25**

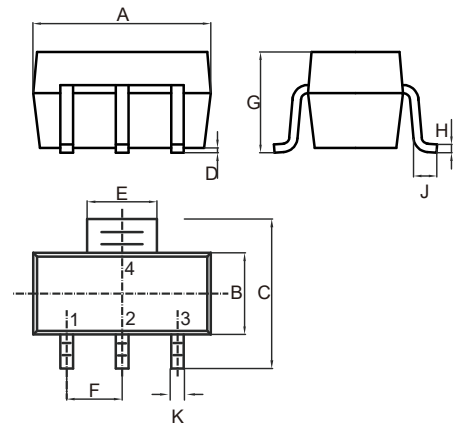
**Internal Structure**



1.BASE  
2,4.COLLECTOR  
3.EMITTER

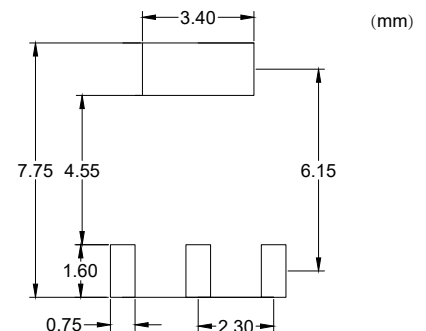
**NPN  
Plastic-Encapsulate  
Transistors**

**SOT-223**



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.248	0.264	6.30	6.70	
B	0.130	0.146	3.30	3.70	
C	0.264	0.287	6.70	7.30	
D	0.001	0.004	0.02	0.10	
E	0.114	0.122	2.90	3.10	
F	0.091		2.30		TYP.
G	---	0.071	---	1.80	
H	0.009	0.014	0.23	0.35	
J	0.030	---	0.75	---	
K	0.026	0.033	0.66	0.84	

**Suggested Solder Pad Layout**

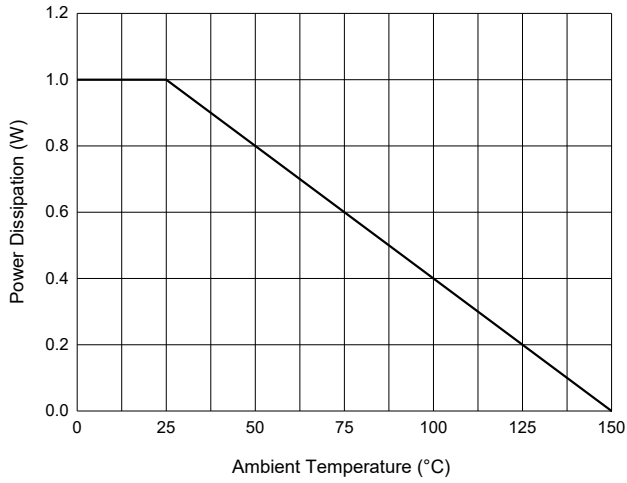


**Electrical Characteristics @ T<sub>A</sub>=25°C Unless Otherwise Specified**

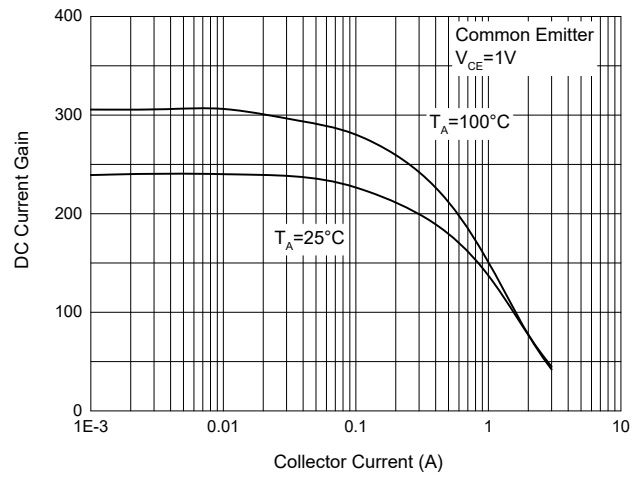
Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	32			V	I <sub>C</sub> =100μA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	20			V	I <sub>C</sub> =1mA, I <sub>B</sub> =0
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	5			V	I <sub>E</sub> =100μA, I <sub>C</sub> =0
Collector-Base Cutoff Current	I <sub>CBO</sub>			100	nA	V <sub>CB</sub> =25V, I <sub>E</sub> =0
Emitter-Base Cutoff Current	I <sub>EBO</sub>			100	nA	V <sub>EB</sub> =5V, I <sub>C</sub> =0
DC Current Gain	h <sub>FE(1)</sub>	160		375		V <sub>CE</sub> =1V, I <sub>C</sub> =0.5A
	h <sub>FE(2)</sub>	60				V <sub>CE</sub> =1V, I <sub>C</sub> =1A
	h <sub>FE(3)</sub>	40				V <sub>CE</sub> =1V, I <sub>C</sub> =2A
	h <sub>FE(4)</sub>	50				V <sub>CE</sub> =10V, I <sub>C</sub> =5mA
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>			0.5	V	I <sub>C</sub> =1A, I <sub>B</sub> =100mA
Base-Emitter Voltage	V <sub>BE</sub>			0.7	V	V <sub>CE</sub> =10V, I <sub>C</sub> =5mA
				1.0	V	V <sub>CE</sub> =1V, I <sub>C</sub> =1A
Transition Frequency	f <sub>T</sub>	40			MHz	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA, f=100MHz
Collector Output Capacitance	C <sub>ob</sub>		22		pF	V <sub>CB</sub> =5V, I <sub>E</sub> =0, f=1MHz

**Curve Characteristics**

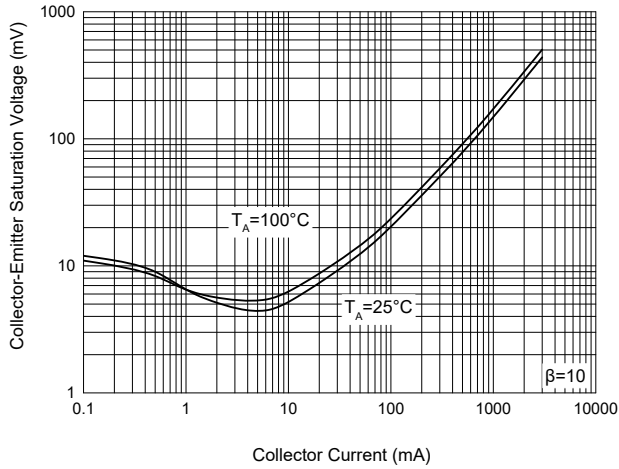
**Fig. 1 - P<sub>D</sub> Power Dissipation**



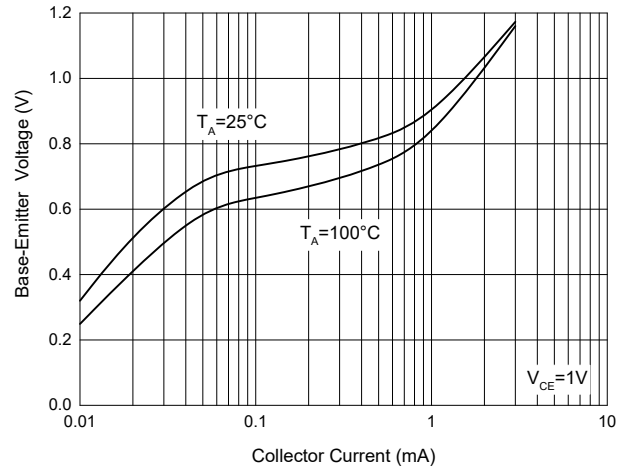
**Fig. 2 - DC Current Gain Characteristics**



**Fig. 3 - Collector-Emitter Saturation Voltage Characteristics**



**Fig. 4 - Base-Emitter Voltage Characteristics**



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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