

## 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

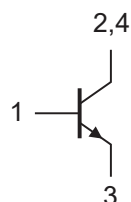
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	3	A
Power Dissipation	$P_D$	0.5	W

## 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	$R_{th(J-A)}$	250	°C/W
Thermal Resistance from Junction to Case	$R_{th(J-C)}$	100	°C/W

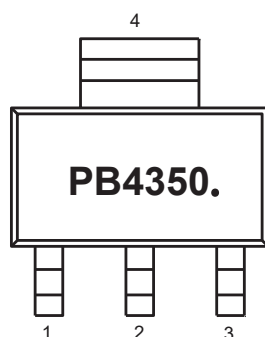
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Internal Structure



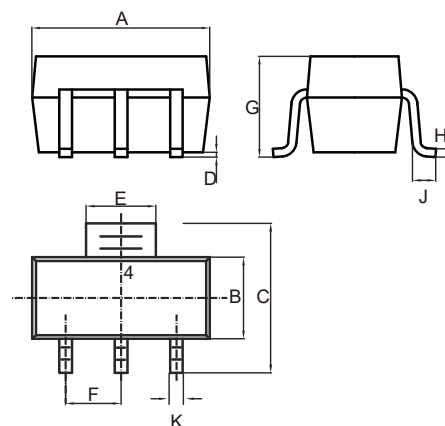
1.Base  
2,4.Collector  
3.Emitter

## Marking Code



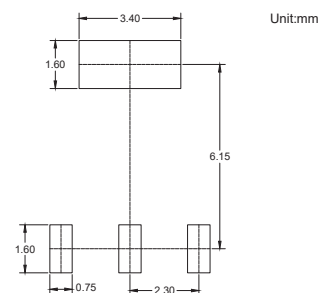
## NPN Transistor

## SOT-223



DIM	INCHES		MM		NOTE
	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	

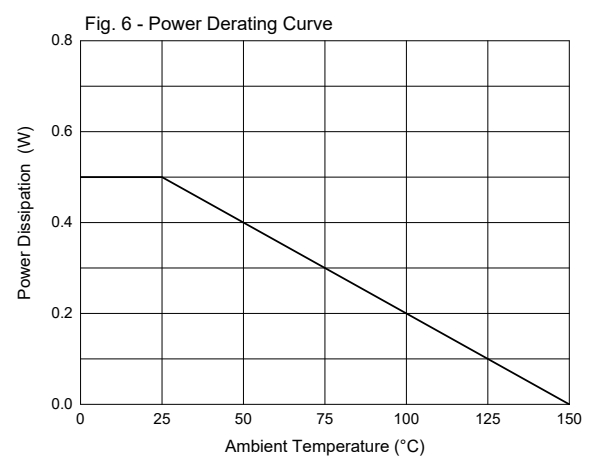
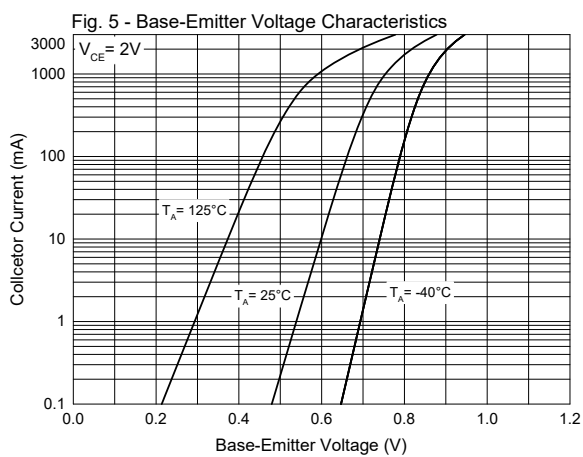
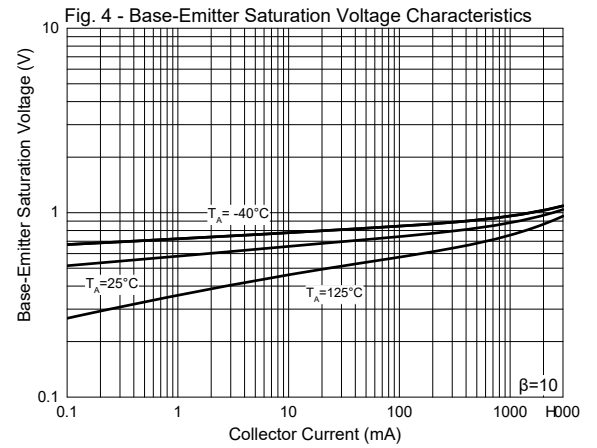
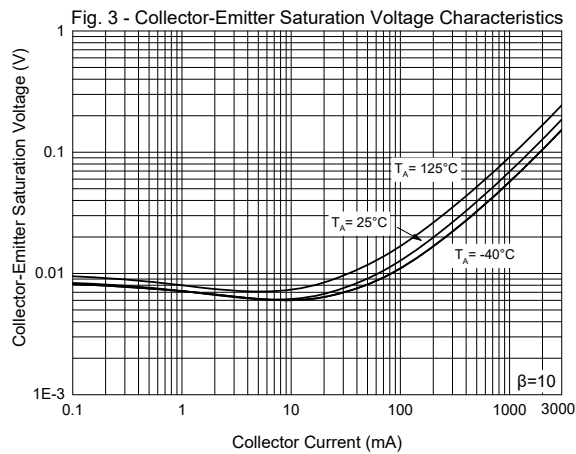
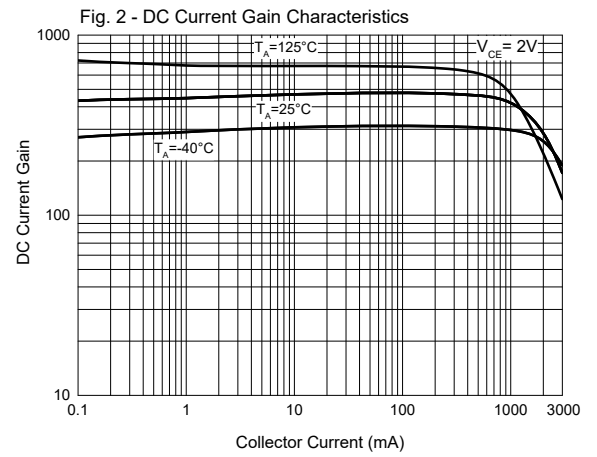
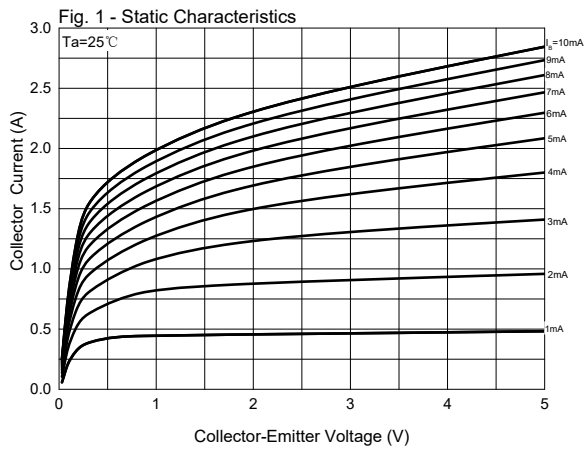
## Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60			V	$I_C=100\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50			V	$I_C=10mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6			V	$I_E=100\mu A, I_C=0$
Collector-Base Cutoff Current	$I_{CBO}$			100	nA	$V_{CB}=50V, I_E=0$
Emitter-Base Cutoff Current	$I_{EBO}$			100	nA	$V_{EB}=5V, I_C=0$
DC Current Gain	$h_{FE(1)}$	200				$V_{CE}=2V, I_C=0.5A$
	$h_{FE(2)}$	200				$V_{CE}=2V, I_C=1A$
	$h_{FE(3)}$	100				$V_{CE}=2V, I_C=2A$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			90	mV	$I_C=0.5A, I_B=50mA$
				170	mV	$I_C=1A, I_B=50mA$
				290	mV	$I_C=2A, I_B=200mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.2	V	$I_C=2A, I_B=200mA$
Base-Emitter Voltage	$V_{BE}$			1.1	V	$V_{CE}=2V, I_C=1A$
Transition Frequency	$f_T$		150		MHz	$V_{CE}=5V, I_C=100mA, f=100MHz$
Output Capacitance	$C_{ob}$		30		pF	$V_{CB}=10V, I_E=0, f=1MHz$

## Curve Characteristics



## Ordering Information

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

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