

High Voltage NPN Power Transistor

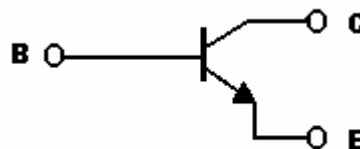
Features:

- High breakdown voltage, $V_{CEO}=400V$ (min.)
- High collector current, $I_{C(max)}=1.5A$ (DC)
- Pb-free lead plating and halogen-free package

TO-252(DPAK)



BV_{CEO}	400V
I_C	1.5A
R_{CESAT}	500m Ω (max.)



B : Base
C : Collector
E : Emitter

Ordering Information

Device	Package	Shipping
KJTIP50	TO-252 (Pb-free lead plating and halogen-free package)	2500 pcs / Tape & Reel

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V _{CBO}	700	V
Collector-Emitter Voltage	V _{CEO}	400	
Emitter-Base Voltage	V _{EBO}	9	
Collector Current (DC)	I _C	1.5	A
Collector Current (Pulse)	I _{CM}	3 (Note 1)	
Base Current (DC)	I _B	0.5	
Base Current (Pulse)	I _{BM}	1.5 (Note 1)	
Power Dissipation @ T _A =25 °C	P _D	1.56 (Note 2)	W
Power Dissipation @ T _C =25 °C		15	
Thermal Resistance, Junction to Ambient	R _{θJA}	80 (Note 2)	°C/W
Thermal Resistance, Junction to Case	R _{θJC}	8.33	
Operating Junction Temperature Range	T _j	-55~+150	°C
Storage Temperature Range	T _{stg}	-65~+150	°C

Note : 1. Pulse test, P_w ≤ 5ms.

2. When the device is mounted on a FR-4 PCB with minimum pad size recommended.

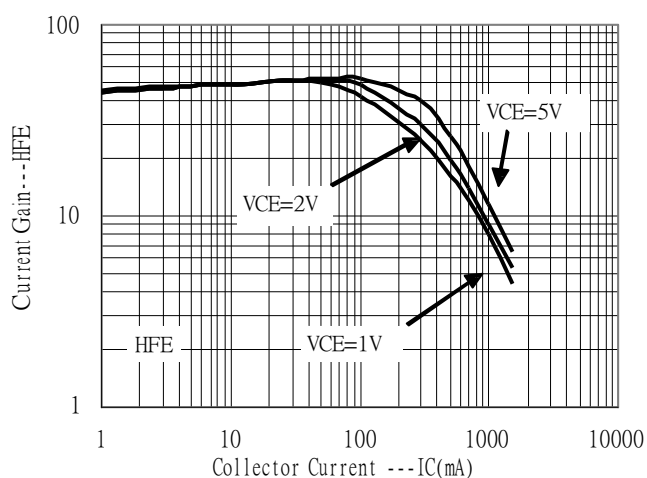
Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CBO}	700	-	-	V	I _C =100μA
BV _{CEO}	400	-	-	V	I _C =10mA
BV _{EBO}	9	-	-	V	I _E =100μA
I _{CBO}	-	-	10	μA	V _{CB} =700V, I _E =0
I _{EBO}	-	-	10	μA	V _{EB} =9V, I _C =0
*V _{CE(SAT)}	-	-	0.3	V	I _C =500mA, I _B =100mA
*V _{CE(SAT)}	-	-	0.5	V	I _C =1 A, I _B =200mA
*V _{CE(SAT)}	-	-	0.8	V	I _C =1.5 A, I _B =500mA
*R _{CE(SAT)}	-	-	0.5	Ω	I _C =1 A, I _B =200mA
*V _{BE(SAT)}	-	-	1.2	V	I _C =1 A, I _B =200mA
*V _{BE(ON)}	-	-	1.2	V	V _{CE} =10V, I _C =1A
*h _{FE 1}	50	-	100	-	V _{CE} =10V, I _C =300mA
*h _{FE 2}	10	-	-	-	V _{CE} =10V, I _C =1A
f _T	10	-	-	MHz	V _{CE} =10V, I _C =100mA, f=100MHz
Cob	-	21	-	pF	V _{CB} =10V, I _E =0A, f=1MHz
ton	-	1.1	-	μs	V _{CC} =125V, R _L =125Ω, I _C =1A, I _{B1} =-I _{B2} =0.2A
tstg	-	-	4		
tf	-	-	0.7		

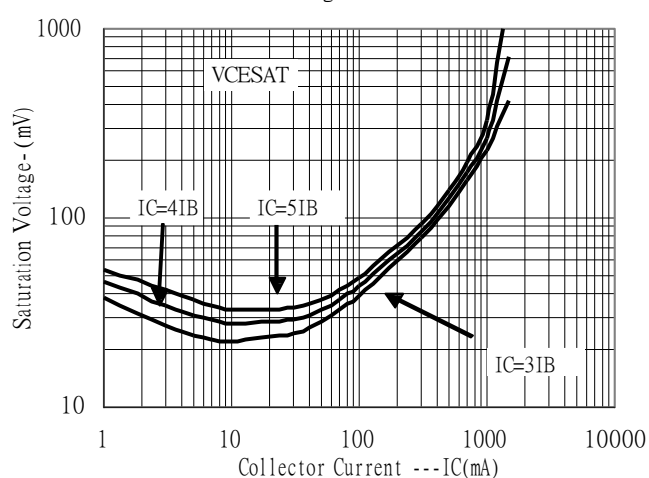
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Typical Characteristics

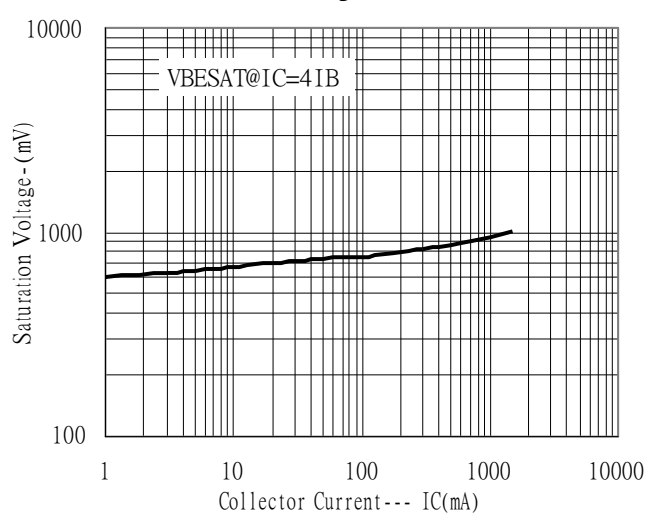
Current Gain vs Collector Current



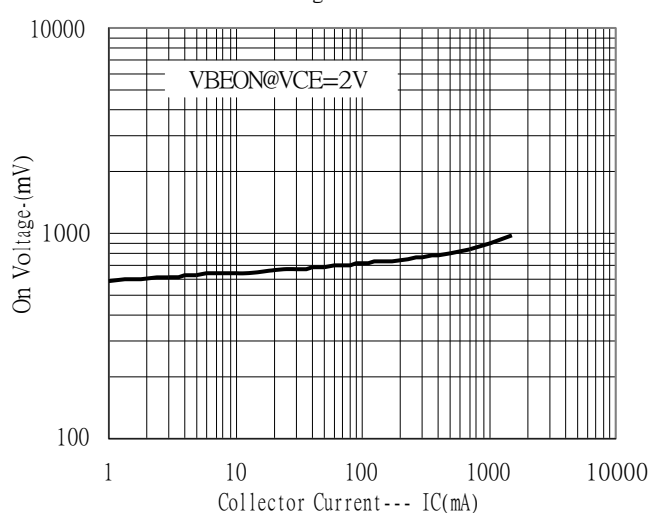
Saturation Voltage vs Collector Current



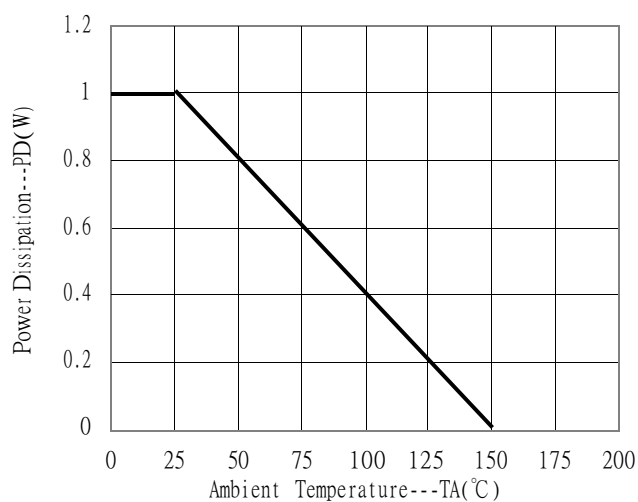
Saturation Voltage vs Collector Current



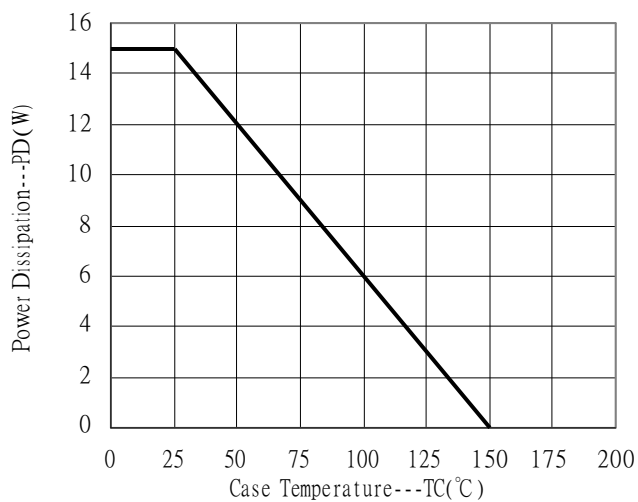
On Voltage vs Collector Current



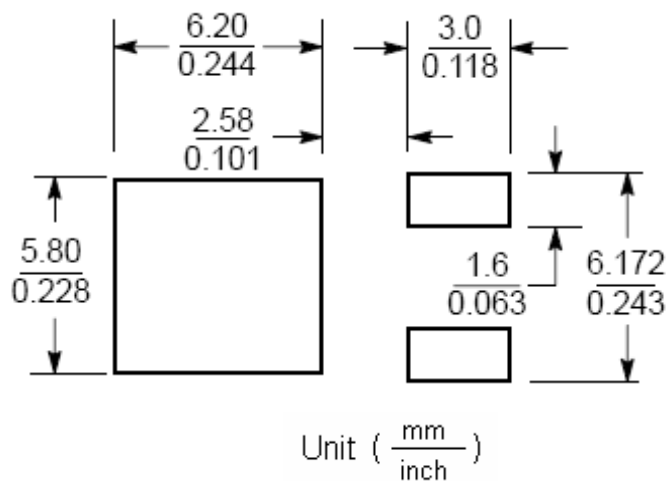
Power Derating Curve



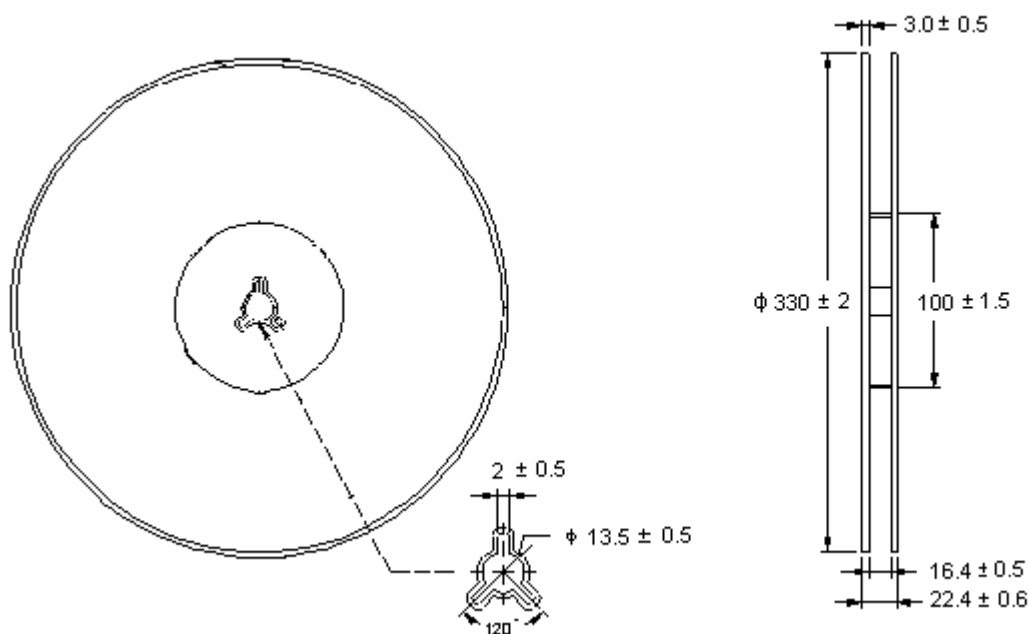
Power Derating Curve



Recommended soldering footprint

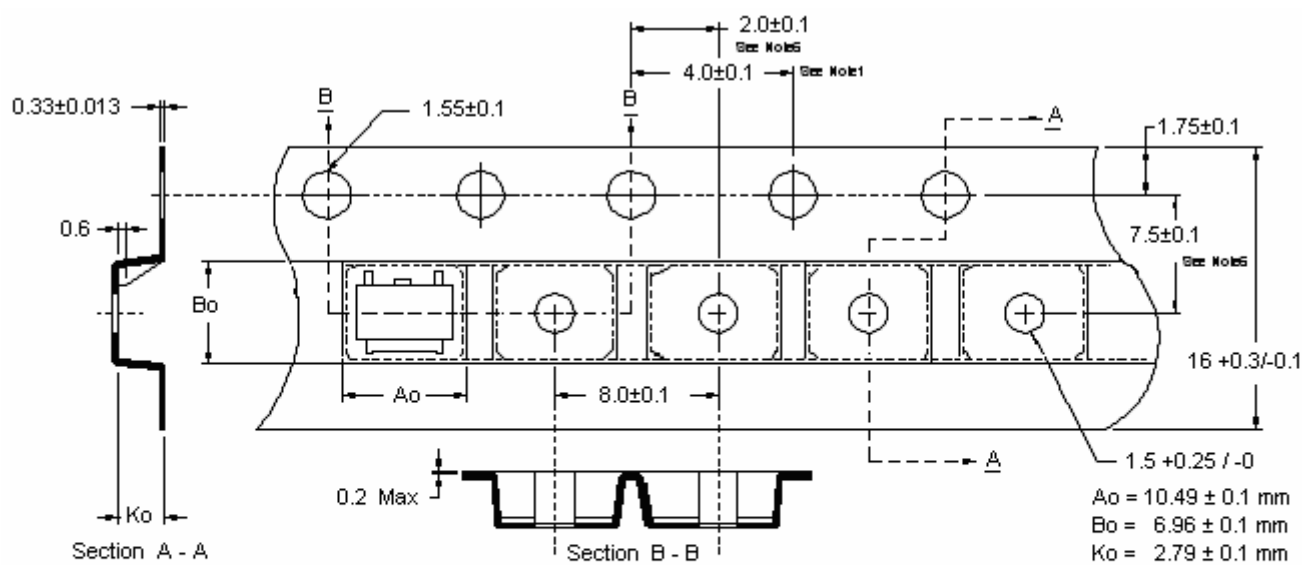


Reel Dimension



Unit: millimeter

Carrier Tape Dimension

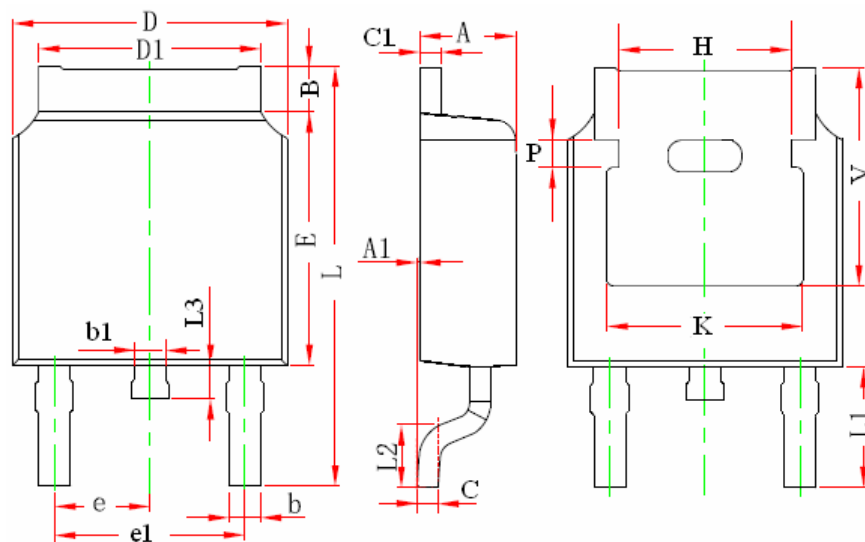


Notes:

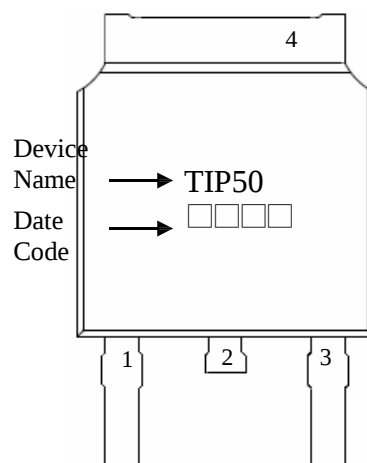
1. 10 sprocket hole pitch cumulative tolerance ± 0.2 .
2. Camber not to exceed 1mm in 100mm.
3. Material: Conductive black polystyrene.
4. Ao & Bo measured on a plane 0.3mm above the bottom of the pocket.
5. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
6. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole.

Unit : millimeter

TO-252 Dimension



Marking:



3-Lead TO-252 Plastic Surface Mount Package

Style: Pin 1.Base 2.Collector 3.Emitter
 4.Collector

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.087	0.094	2.200	2.400	e	0.086	0.094	2.186	2.386
A1	0.000	0.005	0.000	0.127	e1	0.172	0.188	4.372	4.772
B	0.039	0.048	0.990	1.210	H	0.163	REF	4.140	REF
b	0.026	0.034	0.660	0.860	K	0.190	REF	4.830	REF
b1	0.026	0.034	0.660	0.860	L	0.386	0.409	9.800	10.400
C	0.018	0.023	0.460	0.580	L1	0.114	REF	2.900	REF
C1	0.018	0.023	0.460	0.580	L2	0.055	0.067	1.400	1.700
D	0.256	0.264	6.500	6.700	L3	0.024	0.039	0.600	1.000
D1	0.201	0.215	5.100	5.460	P	0.026	REF	0.650	REF
E	0.236	0.244	6.000	6.200	V	0.211	REF	5.350	REF