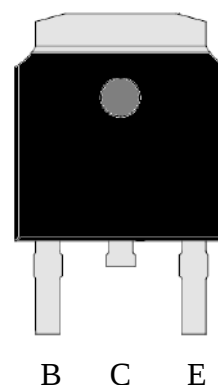


Low Vcesat NPN Epitaxial Planar Transistor

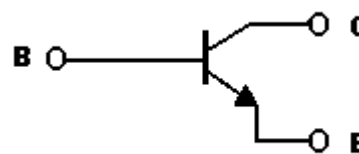
Features:

- Low $V_{CE(sat)}$
- High BV_{CEO}
- Excellent current gain characteristics
- RoHS compliant package

TO-252(DPAK)



BV_{CEO}	80V
I_C	8A
V_{CESAT}	0.6V (max.)



B : Base
 C : Collector
 E : Emitter

Ordering Information

Device	Package	Shipping
KJN3501	TO-252 (RoHS compliant package)	2500 pcs / Tape & Reel

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V _{CBO}	80	V
Collector-Emitter Voltage	V _{CEO}	80	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current (DC)	I _C	8	A
Collector Current (Pulse)	I _{CP}	16 (Note 1)	
Power Dissipation @ T _A =25°C	P _D	1.75 (Note 2)	W
Power Dissipation @ T _C =25°C	P _D	20	
Thermal Resistance, Junction to Ambient	R _{θJA}	71.4 (Note 2)	°C/W
Thermal Resistance, Junction to Case	R _{θJC}	6.25	°C/W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

Note : 1. Single Pulse , P_w ≤ 380μs, Duty ≤ 2%.

2. When mounted on a PCB with the minimum pad size.

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CEO(SUS)}	80	-	-	V	I _C =30mA, I _B =0
I _{CEs}	-	-	10	μA	V _{CE} =80V, V _{BE} =0
I _{EBO}	-	-	50	μA	V _{EB} =5V, I _C =0
*V _{CE(sat)} 1	-	0.3	0.6	V	I _C =8A, I _B =0.4A
*V _{CE(sat)} 2	-	-	1.5	V	I _C =5A, I _B =50mA
*V _{BE(sat)}	-	1.0	1.5	V	I _C =8A, I _B =0.8A
*h _{FE}	60	-	-	-	V _{CE} =1V, I _C =2A
*h _{FE}	40	-	-	-	V _{CE} =1V, I _C =4A
f _T	-	50	-	MHz	V _{CE} =6V, I _C =500mA, f=20MHz
Cob	-	130	-	pF	V _{CB} =10V, f=1MHz

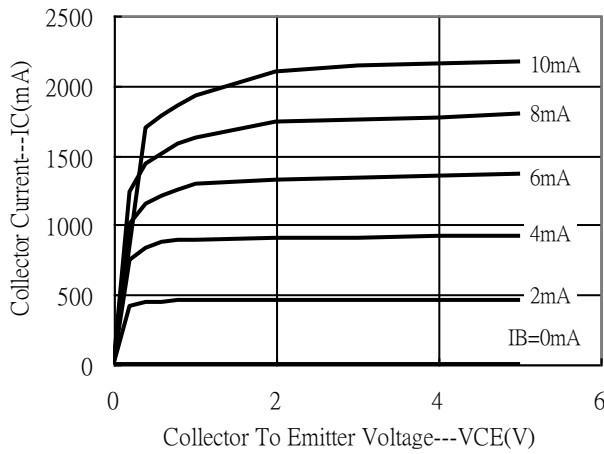
*Pulse Test : Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

Classification of V_{CE(sat)} 2

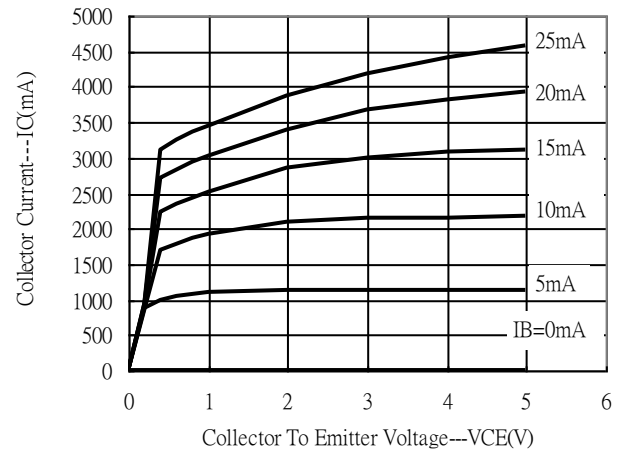
Rank	KB	KC	N
Range	<0.62V	0.58V~0.82V	0.78V~1.5V

Typical Characteristics

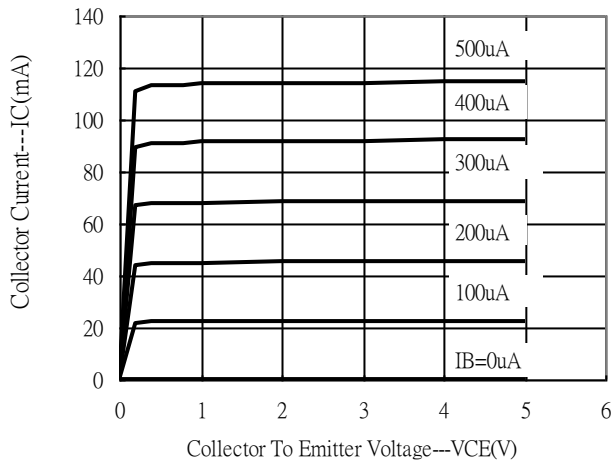
Grounded Emitter Output Characteristics



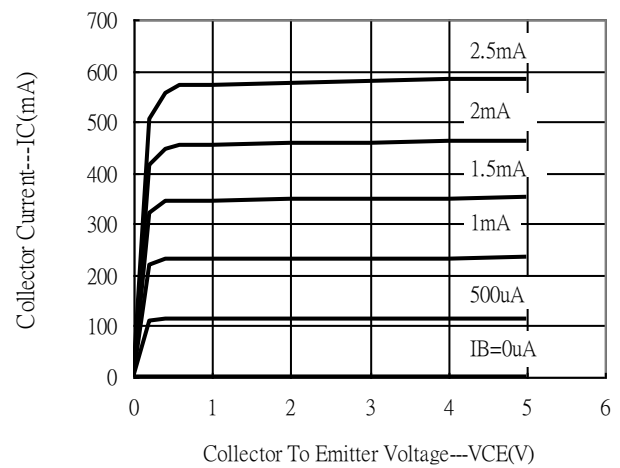
Grounded Emitter Output Characteristics



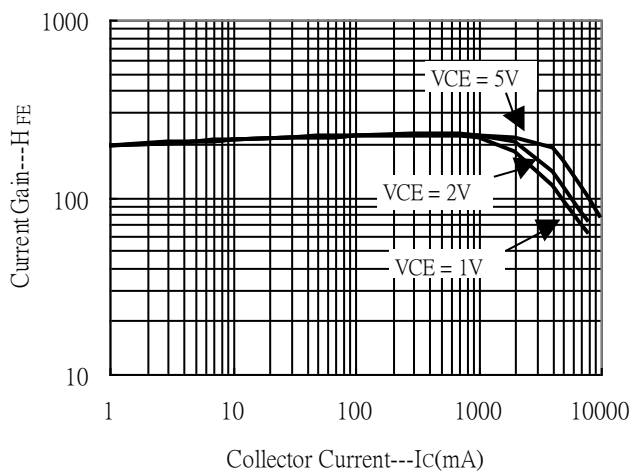
Grounded Emitter Output Characteristics



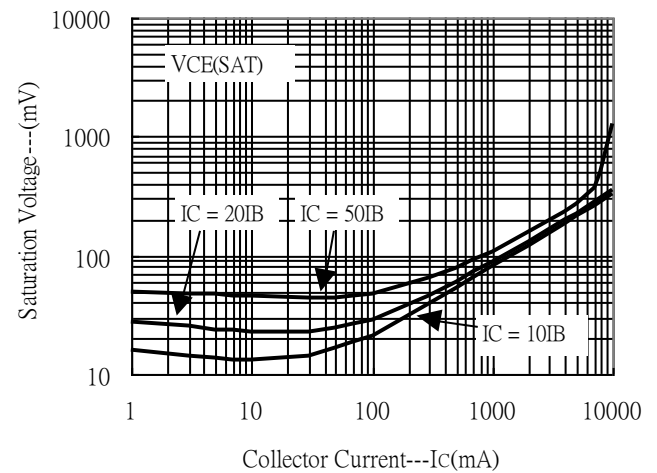
Grounded Emitter Output Characteristics



Current Gain vs. Collector Current

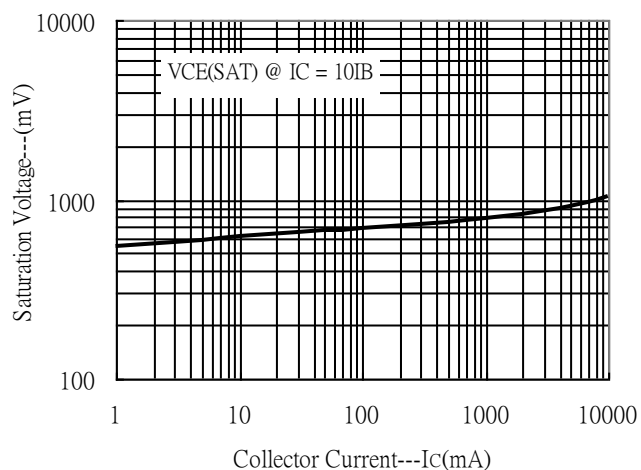


Saturation Voltage vs. Collector Current

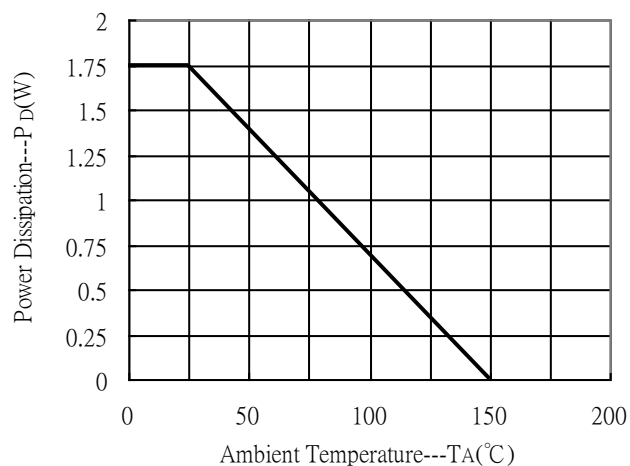


Typical Characteristics(Cont.)

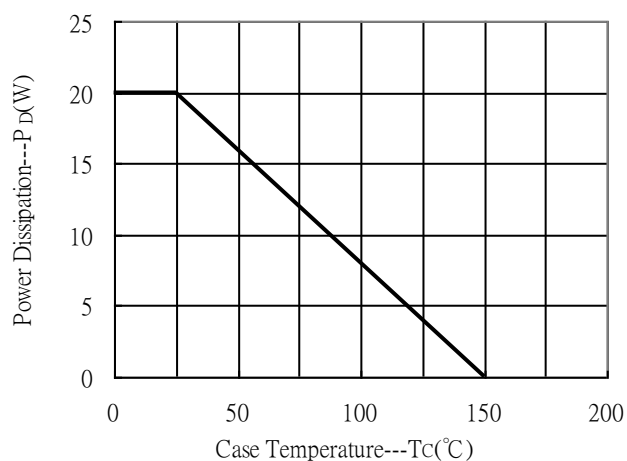
Saturation Voltage vs Collector Current



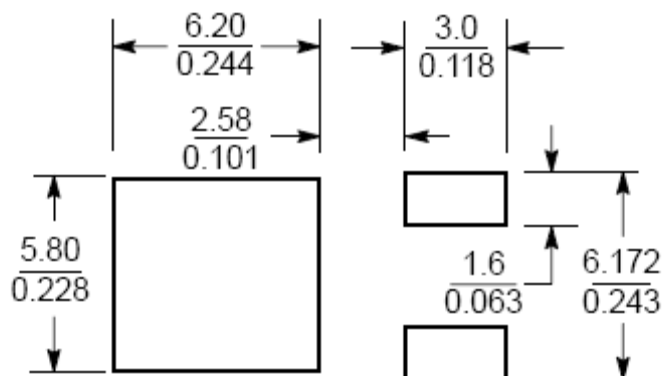
Power Derating Curve



Power Derating Curve

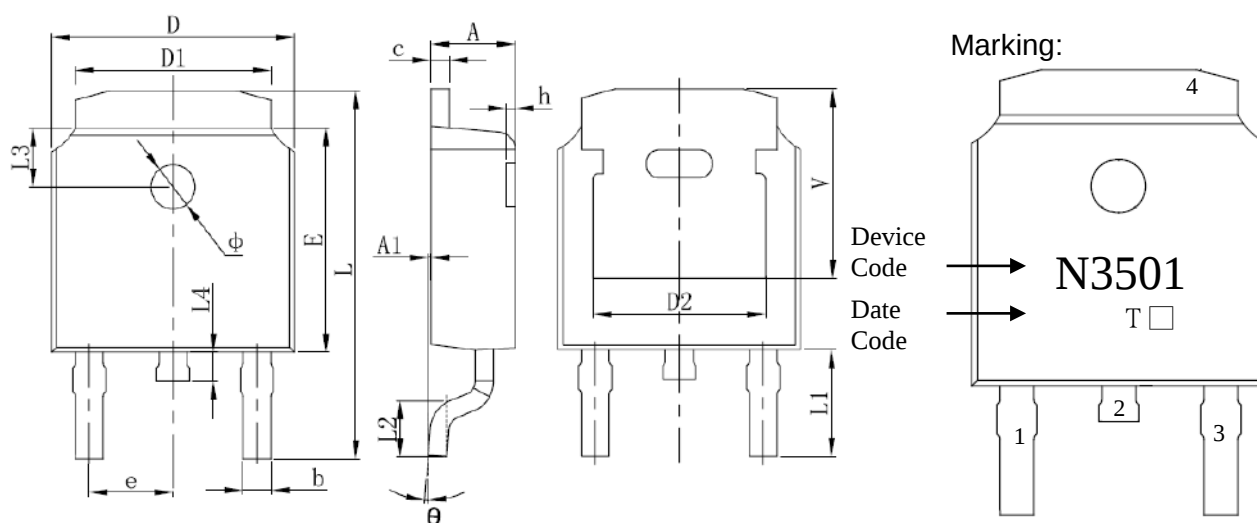


Recommended soldering footprint



Unit ($\frac{\text{mm}}{\text{inch}}$)

TO-252 Dimension



3-Lead TO-252 Plastic Surface Mount Package

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

Date Code : Month Code : Jan→1, Feb→2, Mar→3, Apr→4, May→5, Jun→6, Jul→7,
 Aug→8, Sep→9, Oct→A, Nov→B, Dec→C

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.087	0.094	2.200	2.400	L	0.382	0.406	9.712	10.312
A1	0.000	0.005	0.000	0.127	L1	0.114	REF	2.900	REF
b	0.025	0.030	0.635	0.770	L2	0.055	0.067	1.400	1.700
c	0.018	0.023	0.460	0.580	L3	0.063	REF	1.600	REF
D	0.256	0.264	6.500	6.700	L4	0.024	0.039	0.600	1.000
D1	0.201	0.215	5.100	5.460	Φ	0.043	0.051	1.100	1.300
D2	0.190	REF	4.830	REF	θ	0°	8°	0°	8°
E	0.236	0.244	6.000	6.200	h	0.000	0.012	0.000	0.300
e	0.086	0.094	2.186	2.386	v	0.207	REF	5.250	REF