

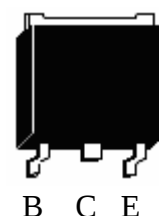
Low Vcesat PNP Epitaxial Planar Transistor

Features:

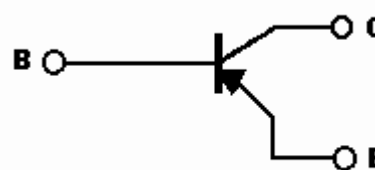
- Low $V_{CE(sat)}$, $V_{CE(sat)} = -0.5\text{ V}$ (max), at $I_C / I_B = -4\text{ A} / -0.1\text{ A}$
- Excellent DC current gain characteristics
- Complementary to KWD2118J3
- Pb-free lead plating and halogen-free package

Outline

TO-252
(DPAK)



Symbol



B : Base
C : Collector
E : Emitter

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter		Symbol	Limits	Unit
Collector-Base Voltage		V_{CBO}	-40	V
Collector-Emitter Voltage		V_{CEO}	-30	V
Emitter-Base Voltage		V_{EBO}	-6	V
Collector Current	DC	I_C	-5	A
	Pulse		-10 *1	
Power Dissipation	$T_a = 25^\circ\text{C}$	P_D	1	W
	$T_c = 25^\circ\text{C}$		10	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature		T_{stg}	-55~+150	$^\circ\text{C}$

Note : *1. Single Pulse $P_w = 10\text{ ms}$

Thermal Data

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-case, max	$R_{\theta JC}$	12.5	$^{\circ}\text{C}/\text{W}$
Thermal Resistance, Junction-to-ambient, max	$R_{\theta JA}$	125	$^{\circ}\text{C}/\text{W}$

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-40	-	-	V	$I_C = -50\mu\text{A}$, $I_E = 0$
BV_{CEO}	-30	-	-	V	$I_C = -1\text{mA}$, $I_B = 0$
BV_{EBO}	-6	-	-	V	$I_E = -50\mu\text{A}$, $I_C = 0$
I_{CBO}	-	-	-0.5	μA	$V_{CB} = -25\text{V}$, $I_E = 0$
I_{EBO}	-	-	-0.5	μA	$V_{EB} = -5\text{V}$, $I_C = 0$
$*V_{CE(sat)}$	-	-0.3	-0.5	V	$I_C = -4\text{A}$, $I_B = -0.1\text{A}$
$*R_{CE(sat)}$	-	75	125	$\text{m}\Omega$	$I_C = -4\text{A}$, $I_B = -0.1\text{A}$
$*h_{FE}$	180	-	390	-	$V_{CE} = -2\text{V}$, $I_C = -0.5\text{A}$
f_T	-	120	-	MHz	$V_{CE} = -6\text{V}$, $I_C = -50\text{mA}$, $f = 30\text{MHz}$
Cob	-	60	-	pF	$V_{CB} = -20\text{V}$, $f = 1\text{MHz}$

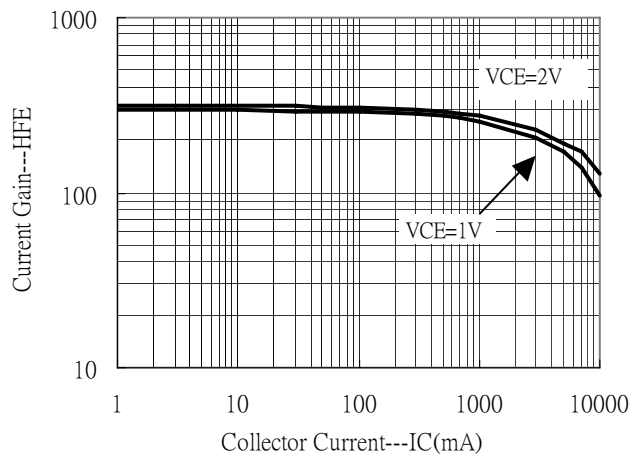
*Pulse Test : Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$

Ordering Information

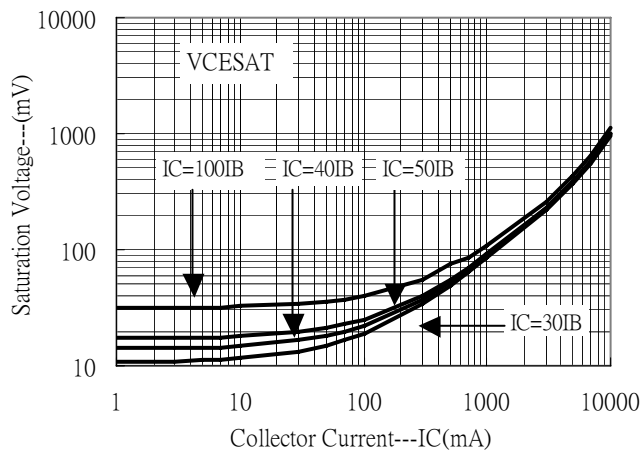
Device	Package	Shipping
KWB1412J3	TO-252 (Pb-free lead plating and halogen-free package)	2500 pcs / Tape & Reel

Typical Characteristics

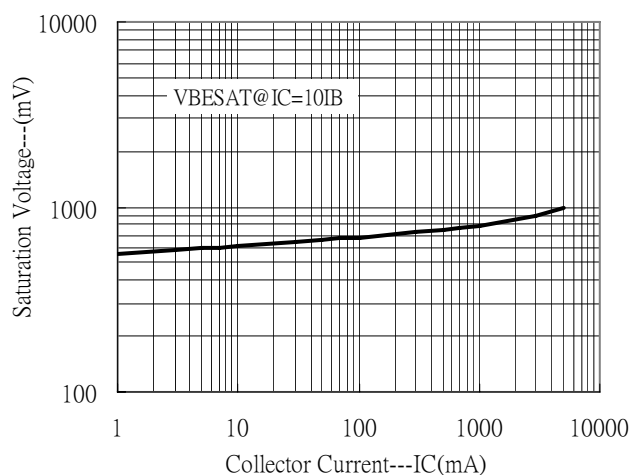
Current Gain vs Collector Current



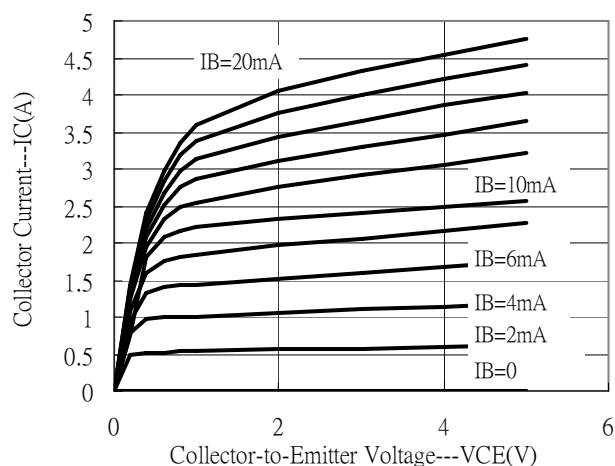
Saturation Voltage vs Collector Current



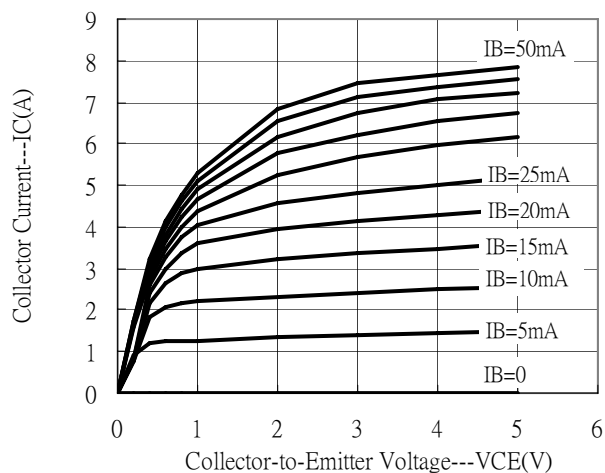
Saturation Voltage vs Collector Current



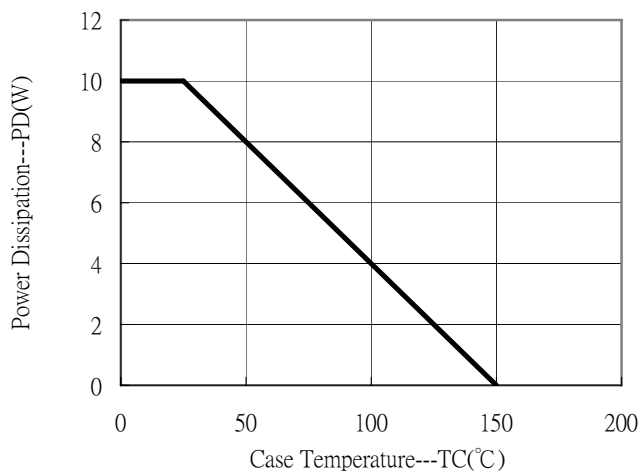
Output Characteristics



Output Characteristics

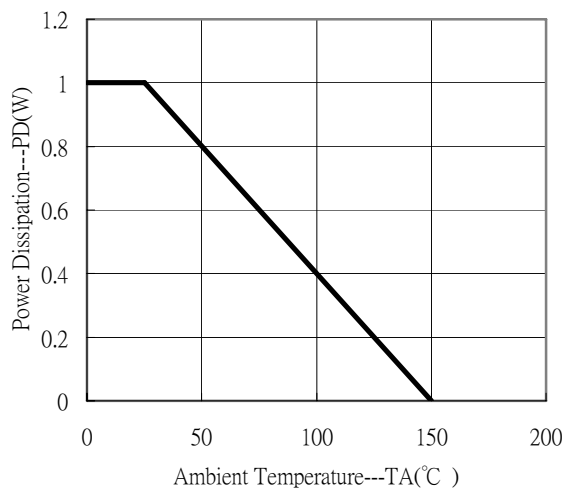


Power Derating Curve

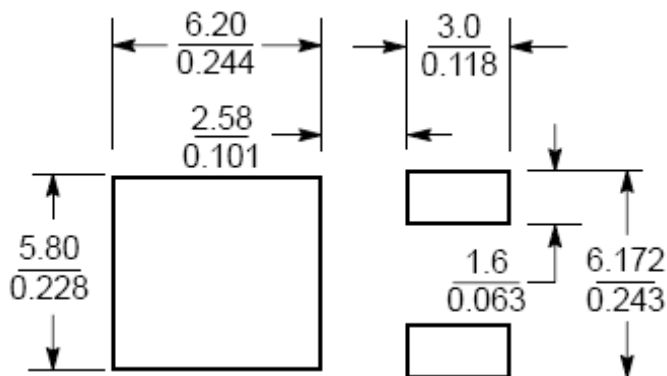


Typical Characteristics(Cont.)

Power Derating Curve

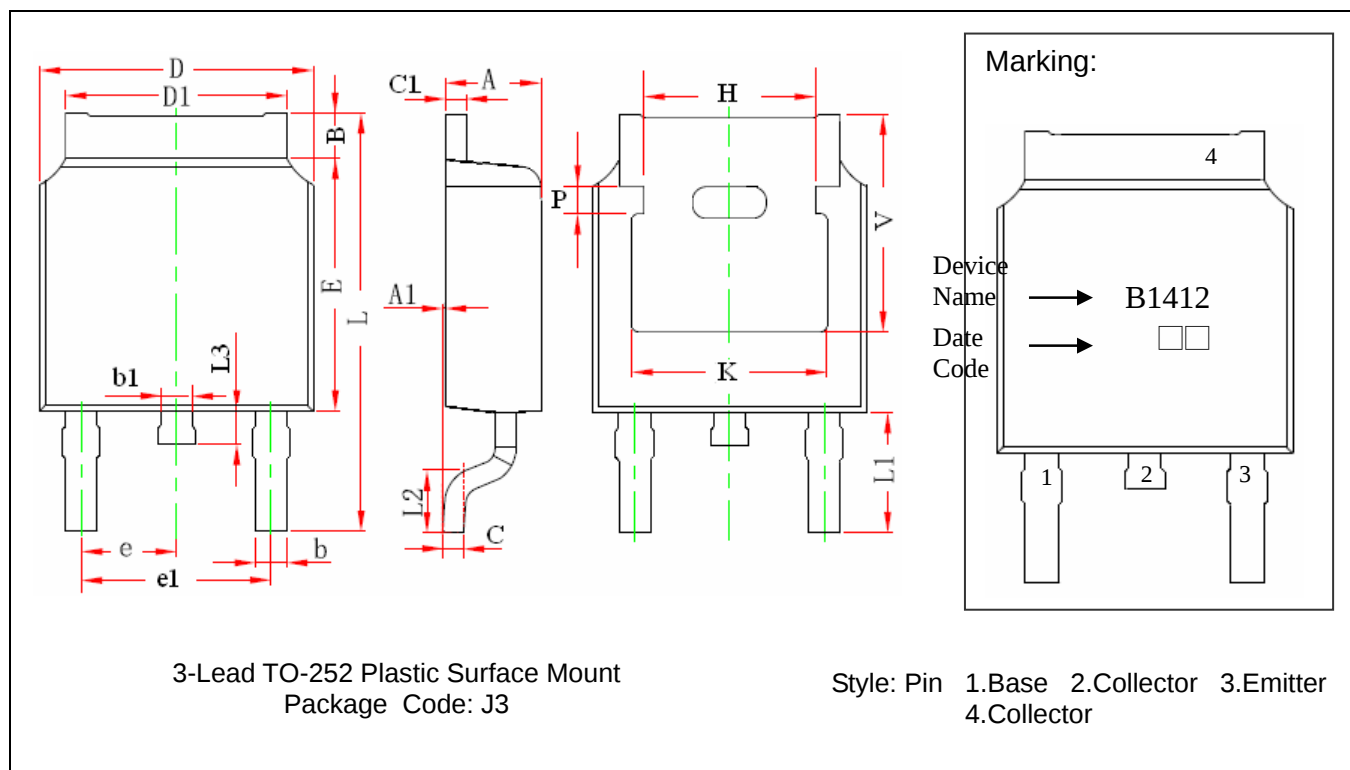


Recommended soldering footprint



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

TO-252 Dimension



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