

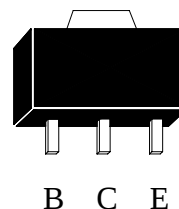
Low Vcesat PNP Epitaxial Planar Transistor

Features:

- Low $V_{CE(sat)}$, $V_{CE(sat)} = -0.24V$ (typical),
at $I_C / I_B = -500mA / -20mA$
- Pb-free lead plating and halogen-free package

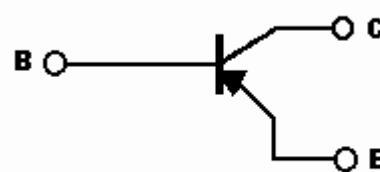
Outline

SOT-89



Symbol

KWA1664M3



B : Base
 C : Collector
 E : Emitter

Ordering Information

Device	Package	Shipping
KWA1664M3	SOT-89 (Pb-free lead plating and halogen-free package)	1000 pcs / Tape & Reel

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V _{CBO}	-50	V
Collector-Emitter Voltage	V _{CEO}	-35	V
Emitter-Base Voltage	V _{EBO}	-7	V
Collector Current(DC)	I _C	-2	A
Peak Collector Current	I _{CM}	-4 *1	A
Peak Base Current	I _{BM}	-200	mA
Power Dissipation	P _D	0.6	W
		1.5 *2	
		2.1 *3	
Thermal Resistance, Junction to Ambient	R _{θJA}	208	°C/W
		83.3 *2	
		59.5 *3	
Thermal Resistance, Junction to Case	R _{θJC}	39	
Operating Junction and Storage Temperature Range	T _j ;T _{stg}	-55~+150	°C

Note :1 Single pulse, P_w=10ms

2 When mounted on 25mm×25mm×1.6 mm FR-4 PCB with high coverage of single sided 1 oz copper, in still air condition

3 When mounted on 50mm×50mm×1.6 mm FR-4 PCB with high coverage of single sided 1 oz copper, in still air condition

Characteristics (Ta=25°C)

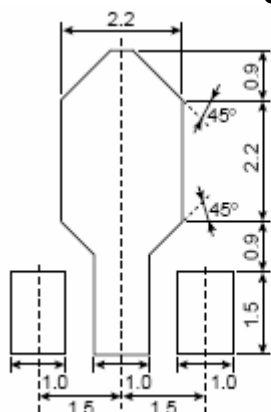
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CBO}	-50	-	-	V	I _C =-50μA, I _E =0
BV _{CEO}	-35	-	-	V	I _C =-1mA, I _B =0
BV _{EBO}	-7	-	-	V	I _E =-50μA, I _C =0
I _{CBO}	-	-	-100	nA	V _{CB} =-50V, I _E =0
I _{EBO}	-	-	-100	nA	V _{EB} =-7V, I _C =0
*V _{CE(sat)}	-	-0.24	-0.4	V	I _C =-500mA, I _B =-20mA
*V _{CE(sat)}	-	-	-0.5	V	I _C =-800mA, I _B =-80mA
*V _{BE(on)}	-0.5	-	-0.8	V	V _{CE} =-1V, I _C =-10mA
*h _{FE} 1	120	-	390	-	V _{CE} =-1V, I _C =-100mA
*h _{FE} 2	40	-	-	-	V _{CE} =-1V, I _C =-800mA
f _T	-	120	-	MHz	V _{CE} =-5V, I _C =-10mA, f=100MHz
Cob	-	19	-	pF	V _{CB} =-10V, f=1MHz

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

Classification of h_{FE} 1

Rank	Q	R
Range	120~270	180~390

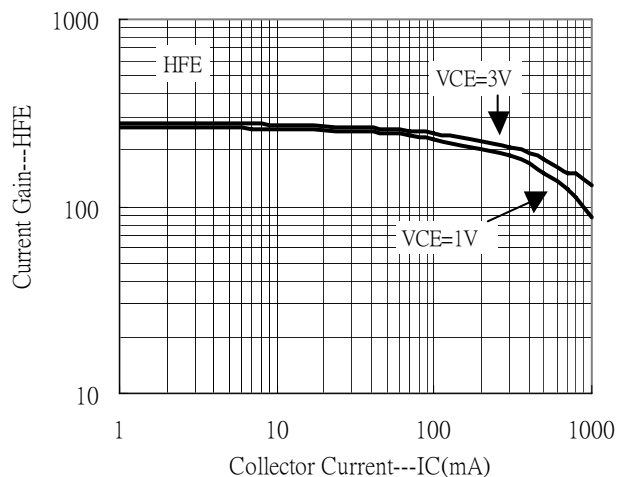
Recommended soldering footprint



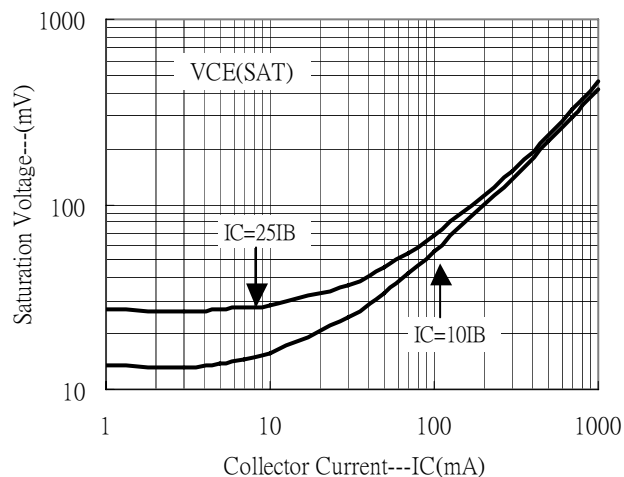
unit : mm

Characteristic Curves

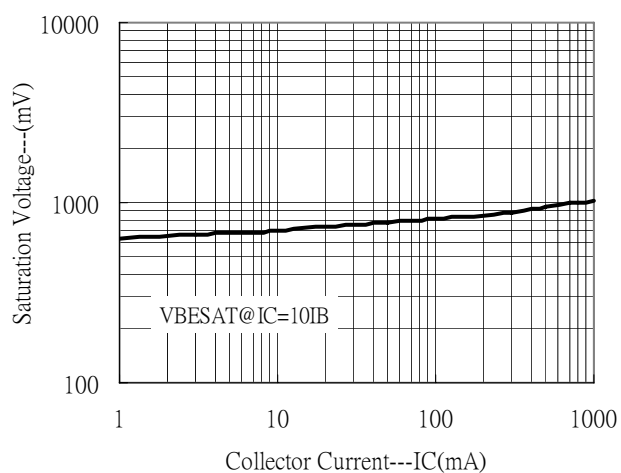
Current Gain vs Collector Current



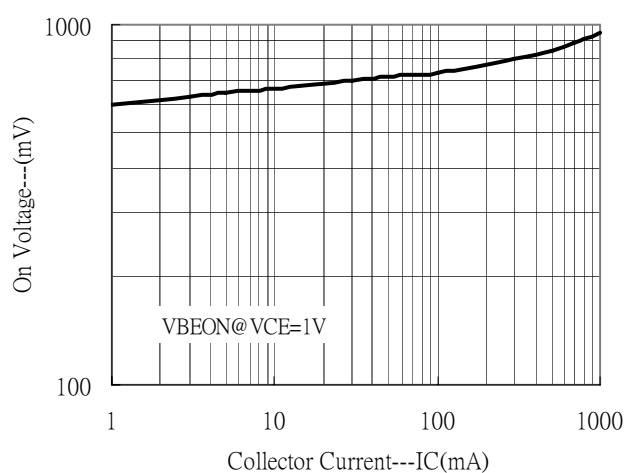
Saturation Voltage vs Collector Current



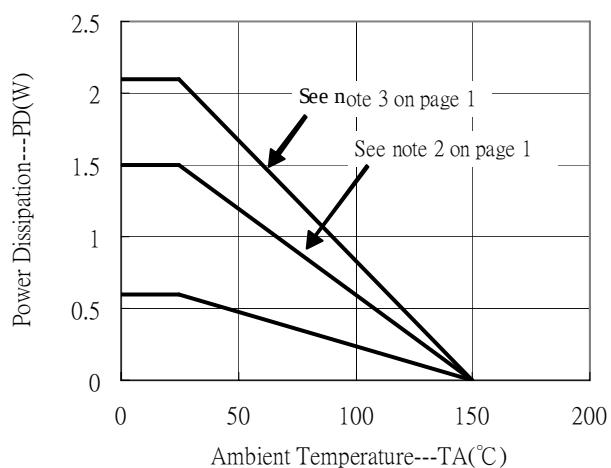
Saturation Voltage vs Collector Current



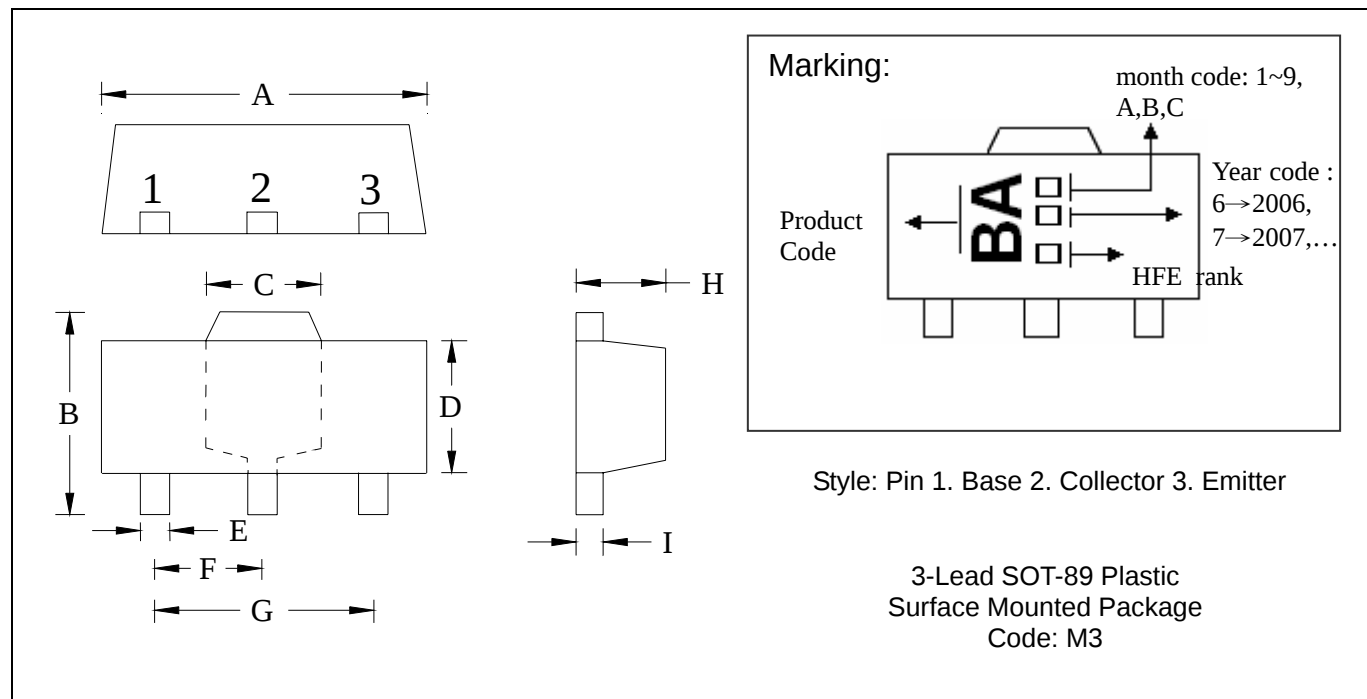
On Voltage vs Collector Current



Power Derating Curves



SOT-89 Dimension



DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1732	0.1811	4.40	4.60	F	0.0591	TYP	1.50	TYP
B	0.1551	0.1673	3.94	4.25	G	0.1181	TYP	3.00	TYP
C	0.0610	REF	1.55	REF	H	0.0551	0.0630	1.40	1.60
D	0.0906	0.1024	2.30	2.60	I	0.0138	0.0173	0.35	0.44
E	0.0126	0.0205	0.32	0.52					