

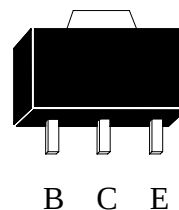
Low Vcesat NPN Epitaxial Planar Transistor

Outline

Features:

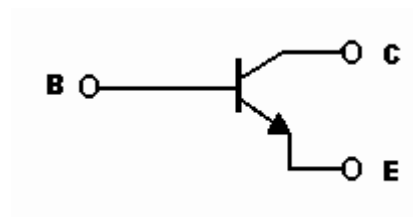
- Low $V_{CE(sat)}$, $V_{CE(sat)}=0.1\text{ V}$ (typical), at $I_C / I_B = 1\text{ A} / 50\text{ mA}$
- Excellent current gain characteristics
- Complementary to KM2150
- Pb-free lead plating package

SOT-89



Symbol

KM2150



B : Base

C : Collector

E : Emitter

BV_{CEO}	50V
I_C	3A
$R_{CE(SAT)}$ typ.	125m Ω

Ordering Information

Device	Package	Shipping
KM2150	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}	80	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	0.6	W
		1 *1	
		2 *2	
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

Note : *1 Printed circuit board, 1.7mm thick, collector copper plating 10mm*10mm.

*2 When mounted on a 40*40*0.7mm ceramic board.

Characteristics (Ta=25°C)

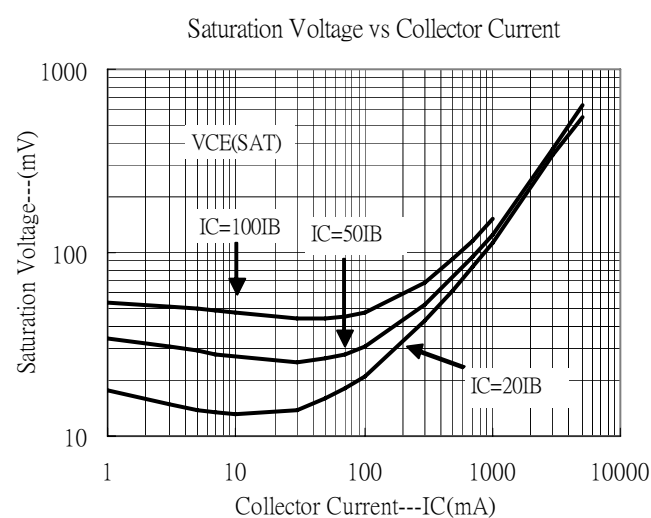
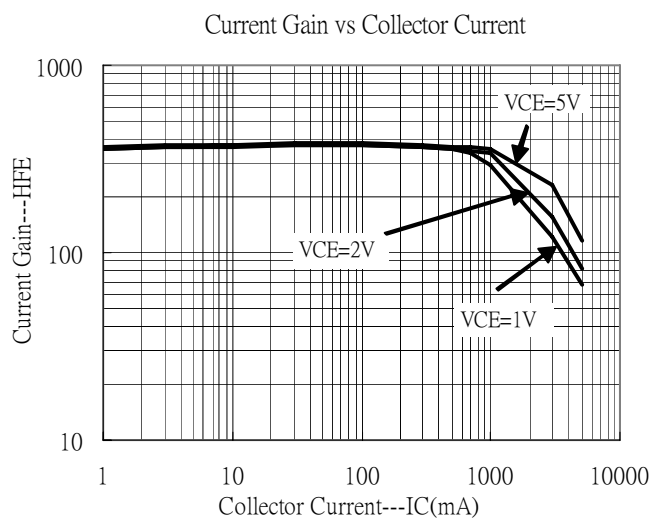
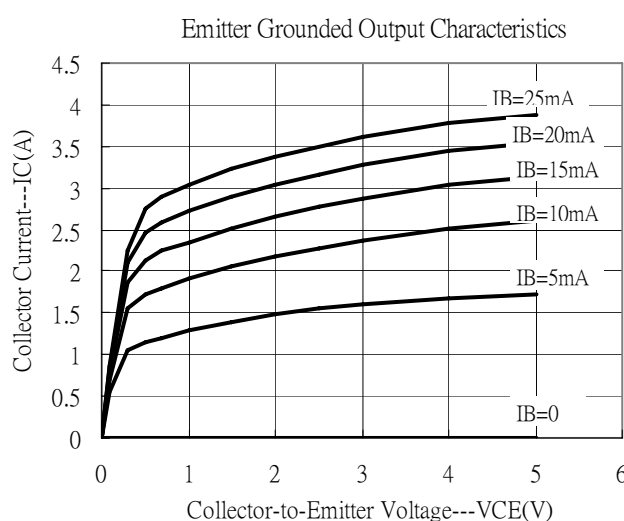
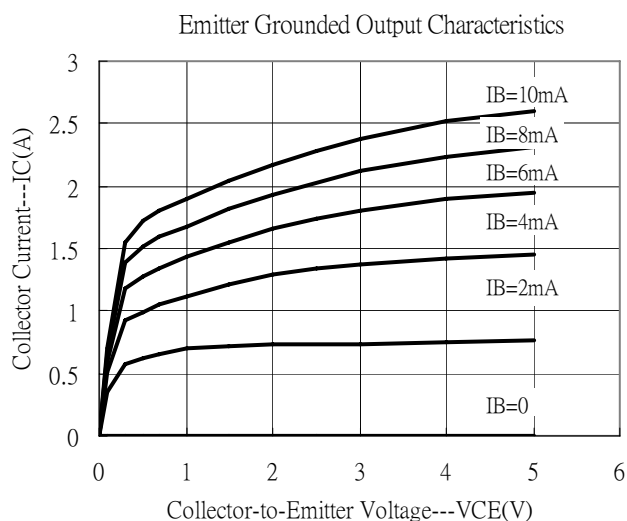
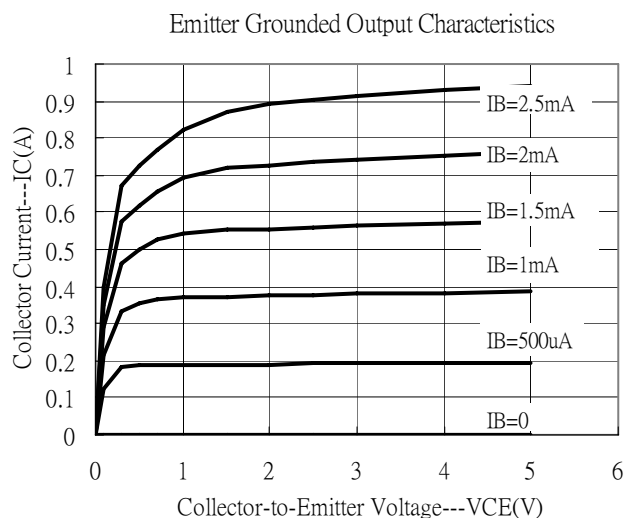
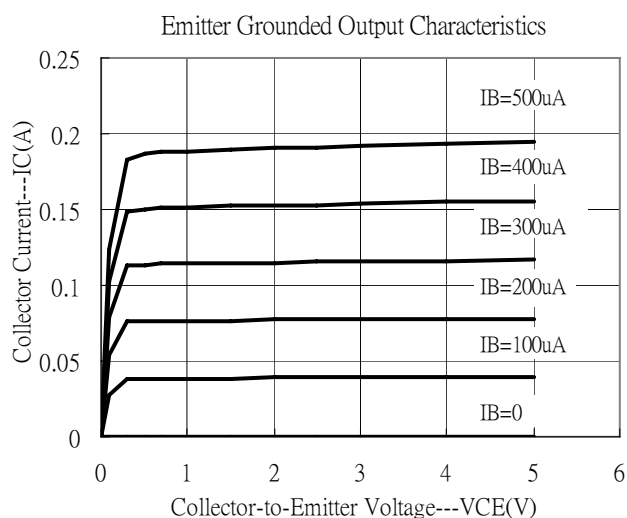
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CBO}	80	-	-	V	I _C =50μA, I _E =0
BV _{CEO}	50	-	-	V	I _C =1mA, I _B =0
BV _{EBO}	6	-	-	V	I _E =50μA, I _C =0
I _{CBO}	-	-	0.1	μA	V _{CB} =60V, I _E =0
I _{EBO}	-	-	0.1	μA	V _{EB} =5V, I _C =0
*V _{CE(sat)}	-	0.1	0.25	V	I _C =1A, I _B =50mA
*V _{CE(sat)}	-	0.25	0.5	V	I _C =2A, I _B =0.2A
*R _{CE(sat)}	-	0.125	0.25	Ω	I _C =2A, I _B =0.2A
*V _{BE(sat)}	0.8	1	1.5	V	I _C =2A, I _B =0.2A
*h _{FE1}	180	-	-	-	V _{CE} =2V, I _C =0.1A
*h _{FE2}	180	-	820	-	V _{CE} =2V, I _C =0.5A
*h _{FE3}	100	-	-	-	V _{CE} =2V, I _C =1A
f _T	-	90	-	MHz	V _{CE} =5V, I _C =0.1A, f =100MHz
Cob	-	45	-	pF	V _{CB} =10V, f=1MHz

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

Classification Of h_{FE} 2

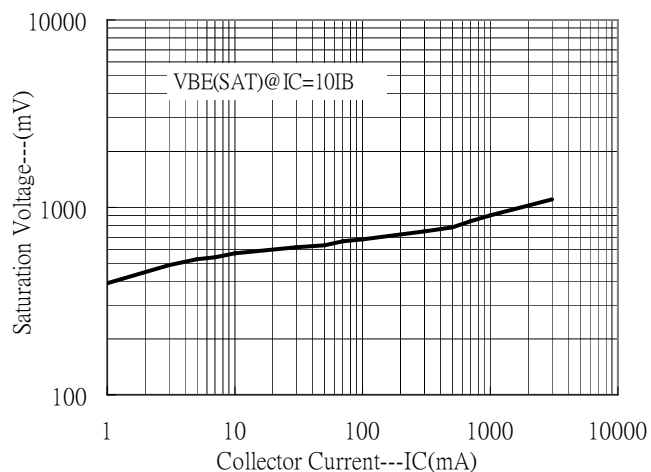
Rank	R	S	T
Range	180~390	270~560	390~820

Typical Characteristics

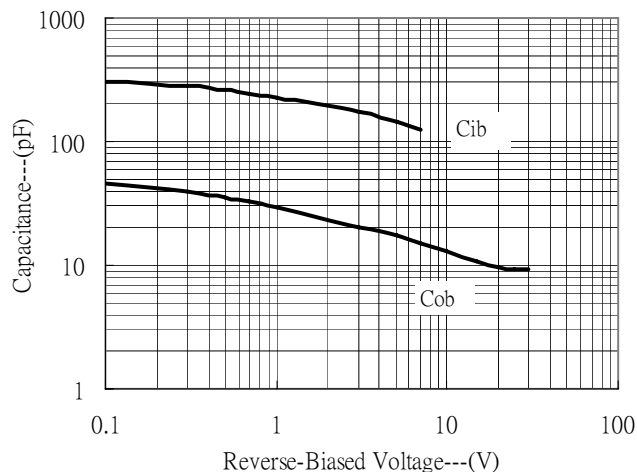


Typical Characteristics(Cont.)

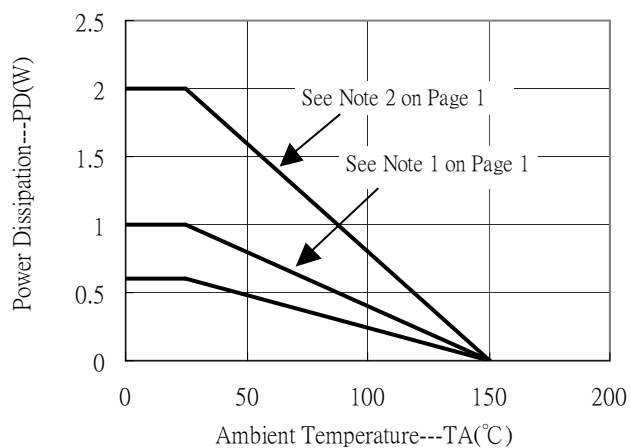
Saturation Voltage vs Collector Current



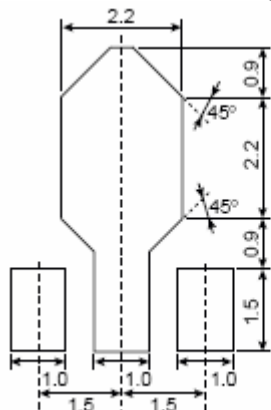
Capacitance vs Reverse-Biased Voltage



Power Derating Curves

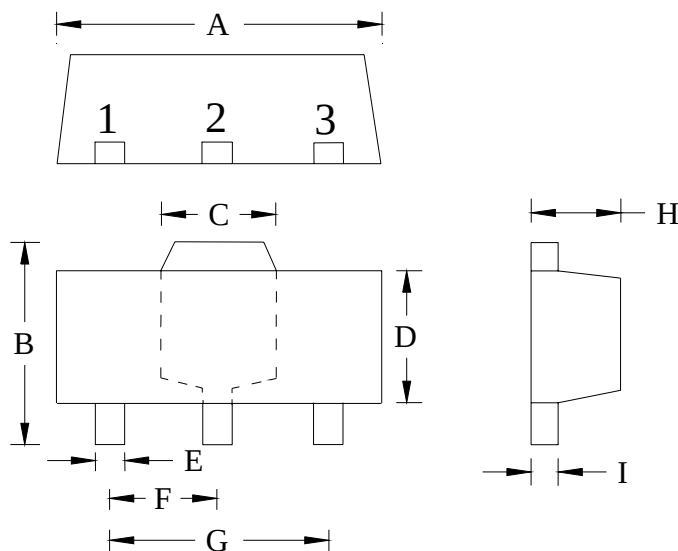


Recommended soldering footprint

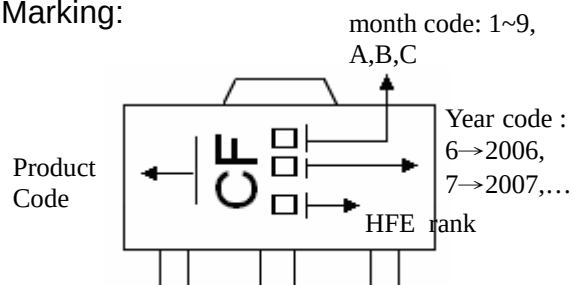


unit : mm

SOT-89 Dimension



Marking:



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

3-Lead SOT-89 Plastic
 Surface Mounted Package
 Code: M3

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					