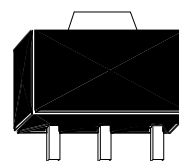


Silicon NPN Epitaxial Planar Transistor

Features:

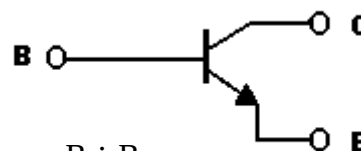
- High BV_{CEO}
- High current capability
- Complementary to KM1236A
- Pb-free lead plating and halogen-free package

SOT-89



B C E

BV_{CEO}	160V
I_C	1.5A
$R_{CESAT(MAX)}$	0.3Ω



B : Base
 C : Collector
 E : Emitter

Ordering Information

Device	Package	Shipping
KM1857A	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}	180	V
Collector-Emitter Voltage	V _{CEO}	160	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current (DC)	I _C	1.5	A
Collector Current (Pulse)	I _{CP}	3	A
Power Dissipation	P _D	0.6	W
		1 (Note 1)	
		2 (Note 2)	
Operating Junction and Storage Temperature Range	T _j ; T _{stg}	-55~+150	°C

Note : 1. When mounted on FR-4 PCB with area measuring 10×10×1 mm

2 . When mounted on ceramic with area measuring 40×40×1 mm

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction to Ambient	R _{θJA}	208	°C/W
		125 (Note 1)	
		62.5 (Note 2)	
Thermal Resistance, Junction to Case	R _{θJC}	39.3	°C/W

Note : 1. When mounted on FR-4 PCB with area measuring 10×10×1 mm

2 . When mounted on ceramic with area measuring 40×40×1 mm

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CBO}	180	-	-	V	I _C =50μA, I _E =0
BV _{CEO}	160	-	-	V	I _C =1mA, I _B =0
BV _{EBO}	5	-	-	V	I _E =50μA, I _C =0
I _{CBO}	-	-	1	μA	V _{CB} =160V, I _E =0
I _{EBO}	-	-	1	μA	V _{EB} =4V, I _C =0
*V _{CE(sat)}	-	-	0.3	V	I _C =1A, I _B =100mA
*R _{CE(sat)}	-	-	0.3	Ω	I _C =1A, I _B =100mA
*V _{BE(on)}	-	-	1.5	V	V _{CE} =5V, I _C =150mA
h _{FE1}	180	-	390	-	V _{CE} =5V, I _C =150mA
h _{FE2}	30	-	-	-	V _{CE} =5V, I _C =500mA
f _T	-	140	-	MHz	V _{CE} =5V, I _C =150mA
Cob	-	27	-	pF	V _{CB} =10V, I _E =0, f=1MHz

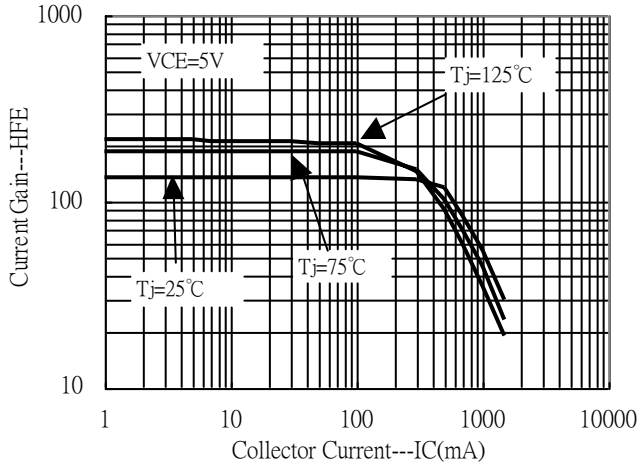
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Classification Of h_{FE} 1

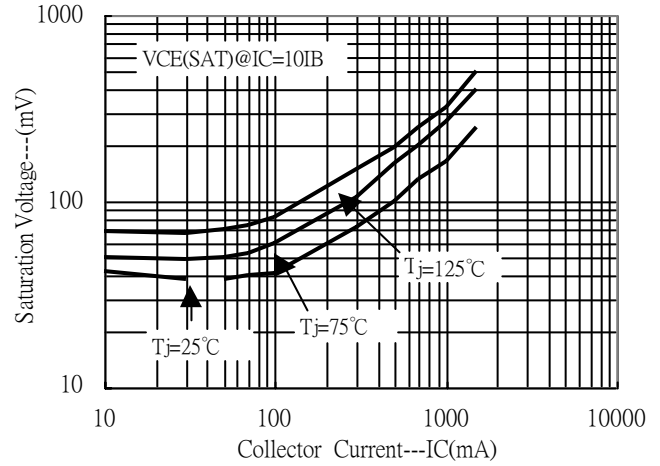
Rank	R
Range	180~390

Characteristic Curves

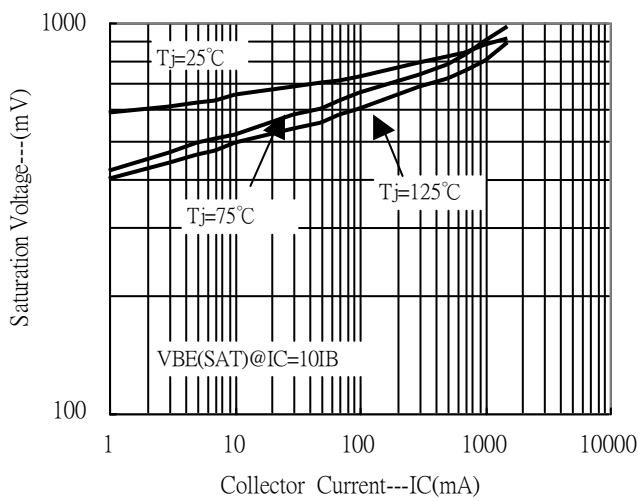
Current Gain vs Collector Current



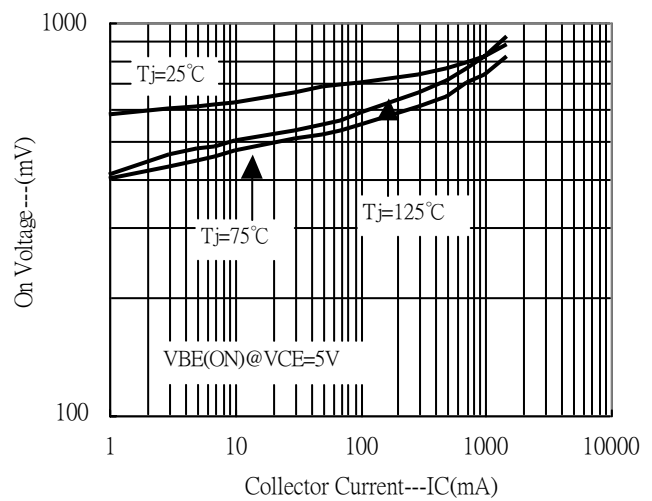
Saturation Voltage vs Collector Current



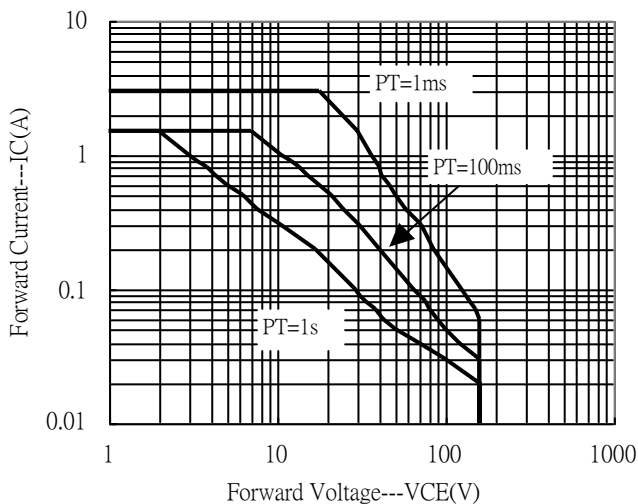
Saturation Voltage vs Collector Current



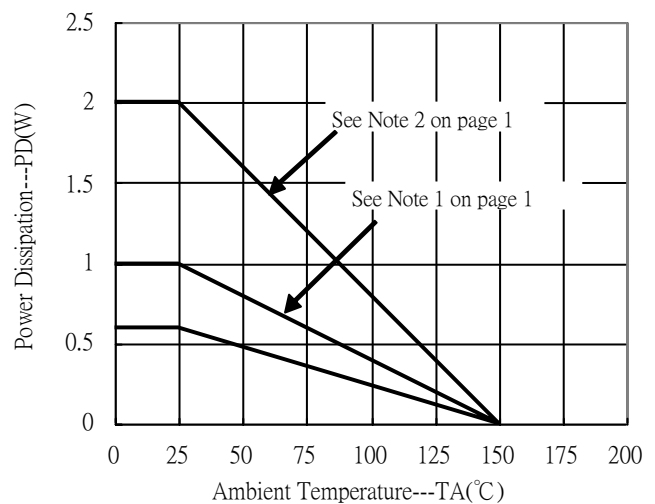
On Voltage vs Collector Current



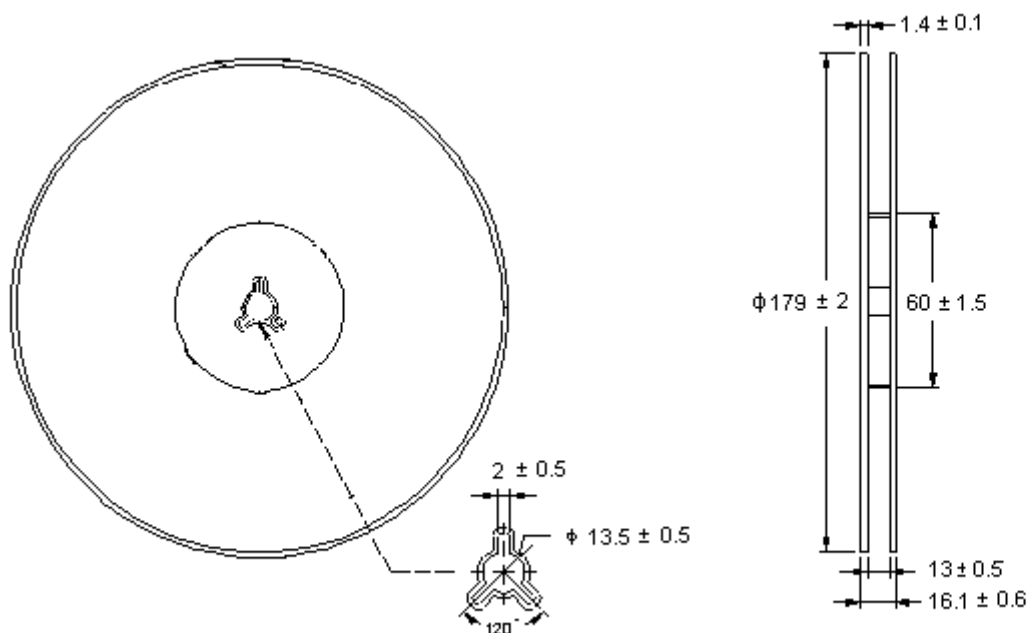
Safe Operating Area



Power Derating Curves

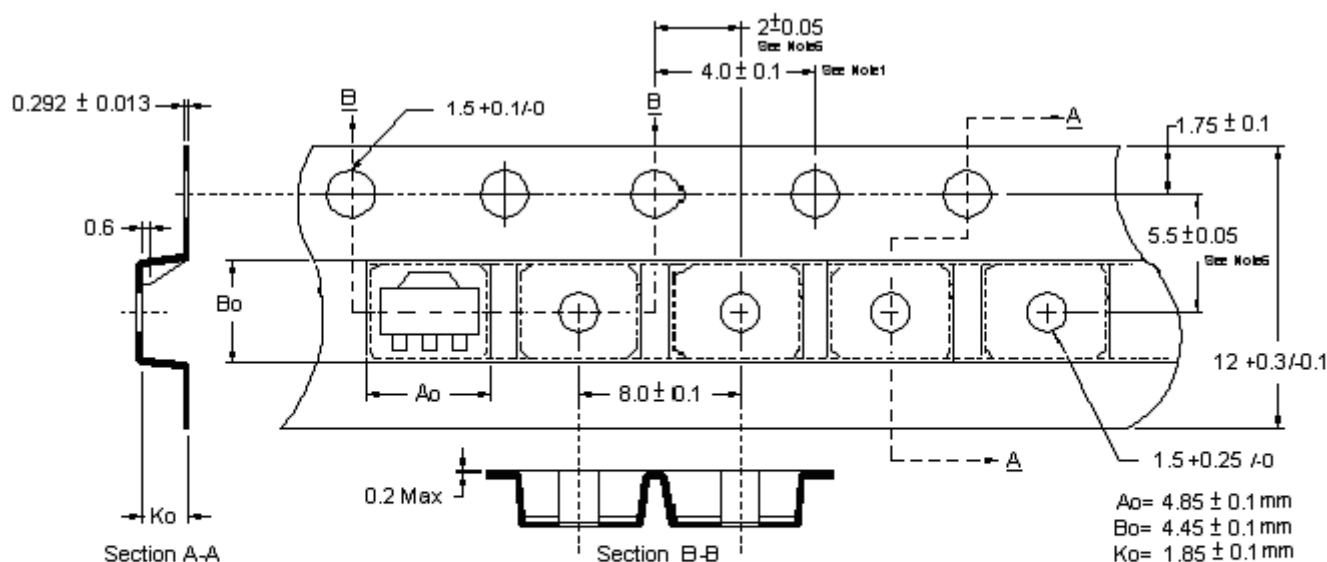


Reel Dimension



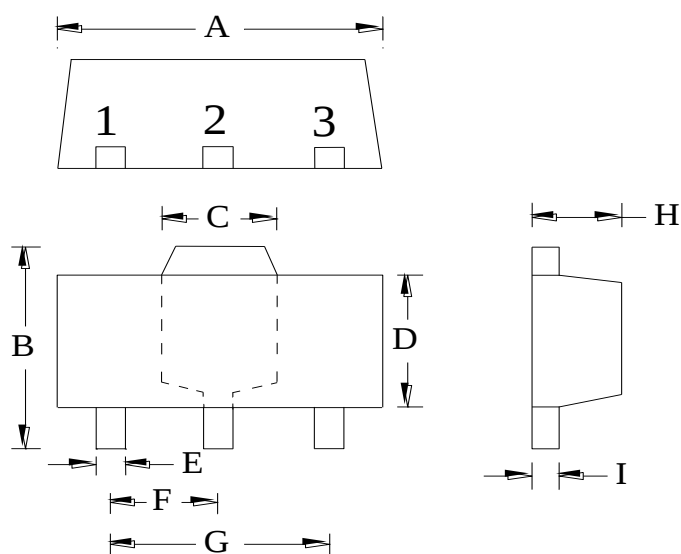
Unit: millimeter

Carrier Tape Dimension

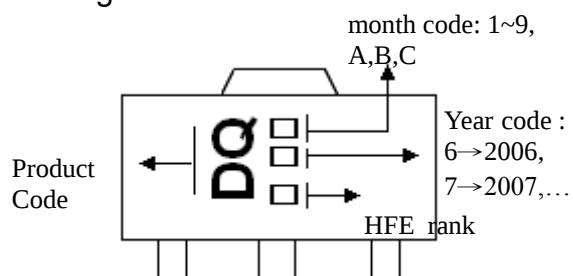


Unit : millimeter

SOT-89 Dimension



Marking:



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

3-Lead SOT-89 Plastic
Surface Mounted Package

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					