

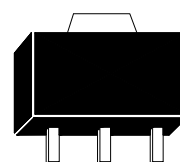
Silicon NPN Epitaxial Planar Transistor

Features:

- Low saturation voltage, typically $V_{CE(sat)}=0.1V$ at $I_C/I_B=1A/50mA$
- Excellent DC current gain characteristics
- Pb-free lead plating and halogen-free package

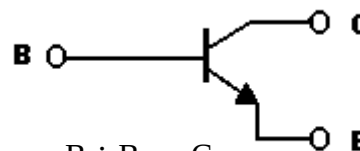
Outline

SOT-89



B C E

Symbol



B : Base
C : Collector
E : Emitter

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current (DC)	I_C	5	A
Collector Current (Pulse)	I_{CP}	9	A
Power Dissipation	P_D	0.6	W
Junction Temperature	T_j	150	°C
Storage Temperature	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
Thermal Resistance, Junction to Case	R _{θJC}	105	°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 (T_a=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CBO}	100	-	-	V	I _C =50μA, I _E =0
BV _{CEO}	60	-	-	V	I _C =1mA, I _B =0
BV _{EB0}	6	-	-	V	I _E =50μA, I _C =0
I _{CBO}	-	-	0.1	μA	V _{CB} =100V, I _E =0
I _{EB0}	-	-	0.1	μA	V _{EB} =5V, I _C =0
*V _{CE(sat)}	-	0.1	0.35	V	I _C =1A, I _B =50mA
*V _{CE(sat)}	-	0.23	0.4	V	I _C =3A, I _B =300mA
*V _{BE(sat)}	0.5	-	1.2	V	I _C =1A, I _B =100mA
h _{FE1}	250	-	500	-	V _{CE} =2V, I _C =500mA
h _{FE2}	80	-	-	-	V _{CE} =2V, I _C =1.5A
f _T	-	210	-	MHz	V _{CE} =2V, I _C =500mA, f=100MHz
Cob	-	25	-	pF	V _{CB} =10V, I _E =0, f=1MHz

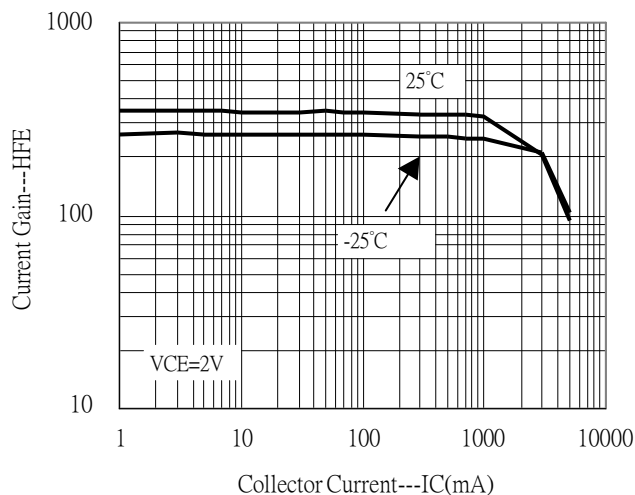
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Ordering Information

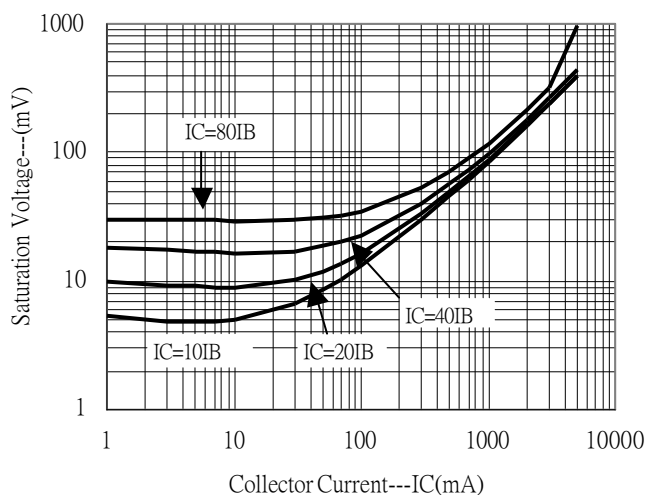
Device	Package	Shipping
KM4672	SOT-89 (Pb-free lead plating and halogen-free package)	1000 pcs / Tape & Reel

Characteristic Curves

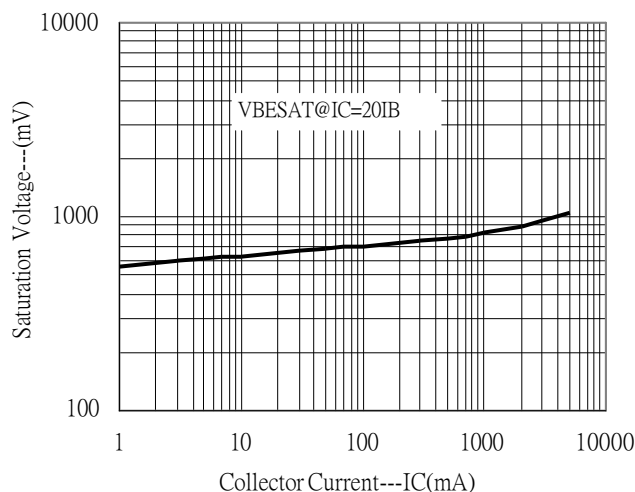
Current Gain vs Collector Current



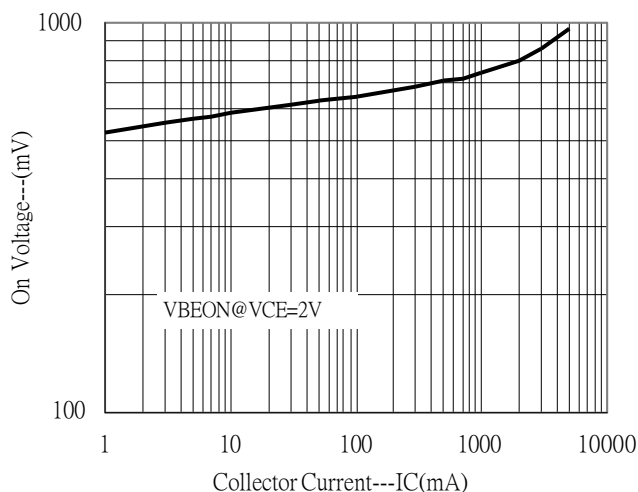
Saturation Voltage vs Collector Current



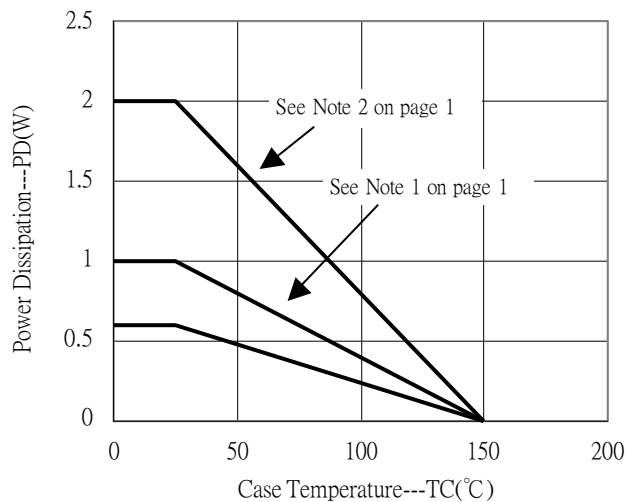
Saturation Voltage vs Collector Current



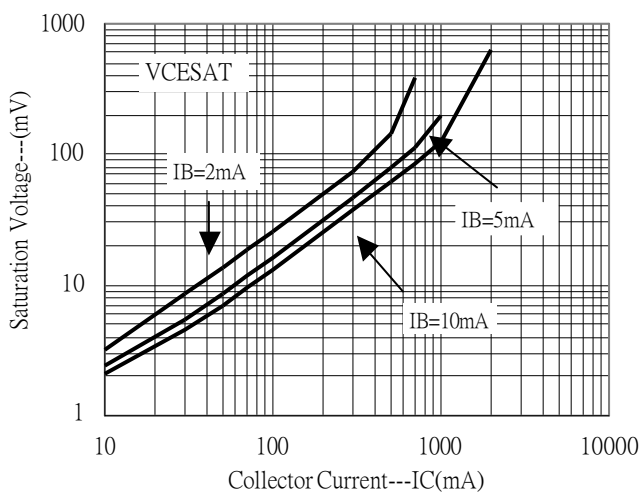
On Voltage vs Collector Current



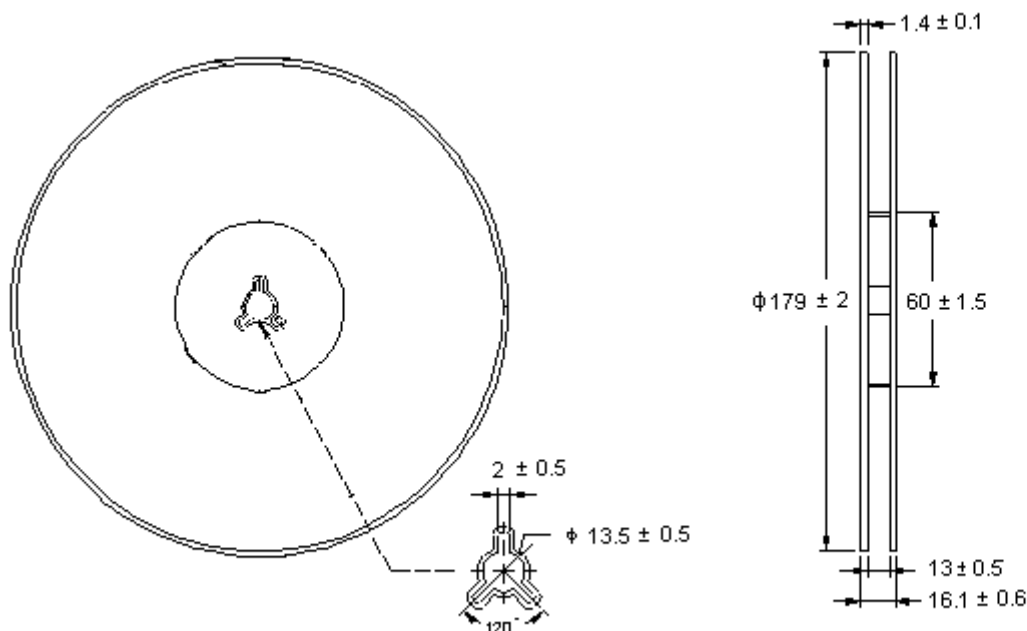
Power Derating Curve



Saturation Voltage vs Collector Current

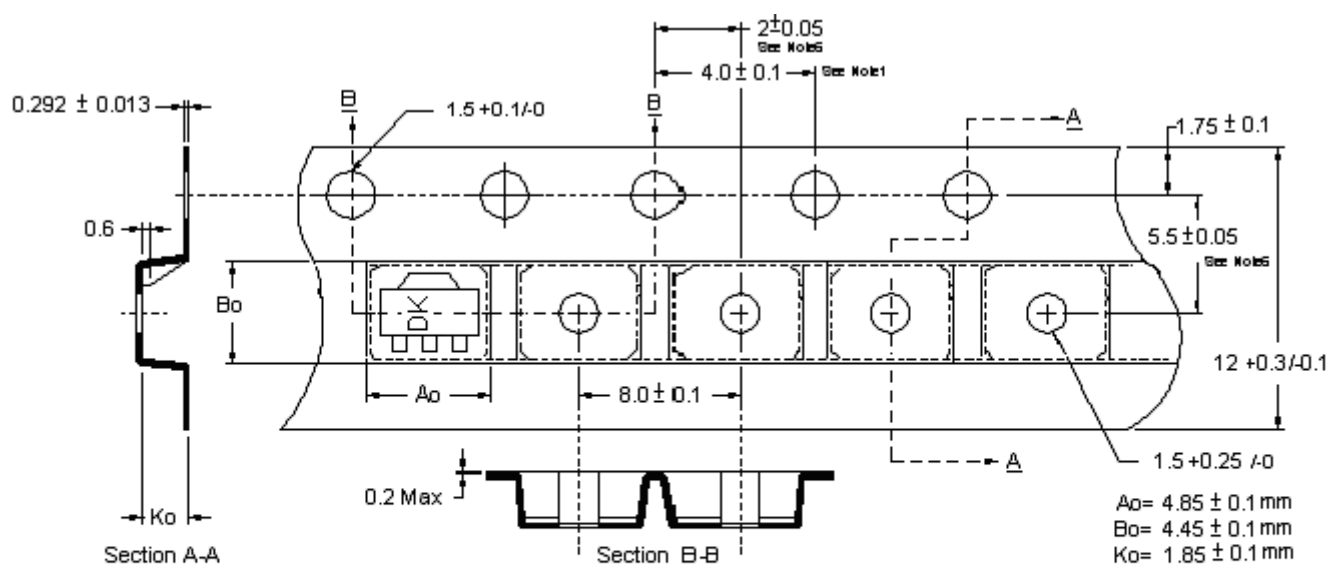


Reel Dimension



Unit: millimeter

Carrier Tape Dimension

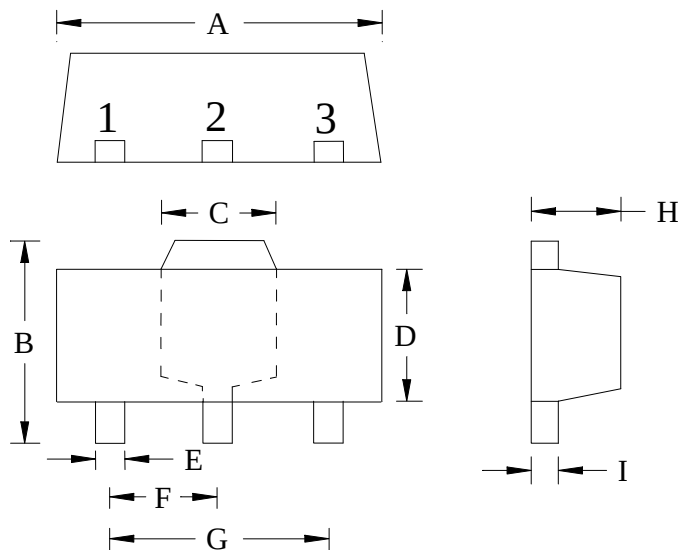


Notes:

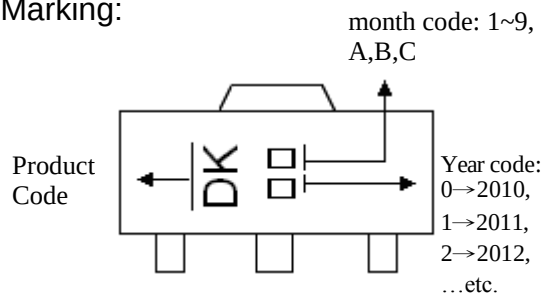
1. 10 sprocket hole pitch cumulative tolerance ± 0.2 .
2. Camber not to exceed 1mm in 100mm.
3. Material: Conductive Black Advantek Polystyrene.
4. A_0 & B_0 measured on a plane 0.3mm above the bottom of the pocket.
5. K_0 measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
6. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole.

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					