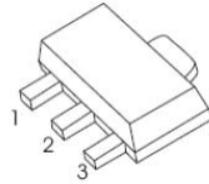




FEATURES

- High voltage
- Large continuous collector current capability



1.Base
2.Collector
3.Emitter

■ Simplified outline(SOT-89)

1013

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

MAXIMUM RATINGS (T_a=25 °C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	-160	V
V _{CEO}	Collector-Emitter Voltage	-160	V
V _{EBO}	Emitter-Base Voltage	-6	V
I _C	Collector Current -Continuous	-1	A
P _C	Collector Power Dissipation	0.5	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C
R _{θJA}	Thermal Resistance from Junction to Ambient	250	°C/W

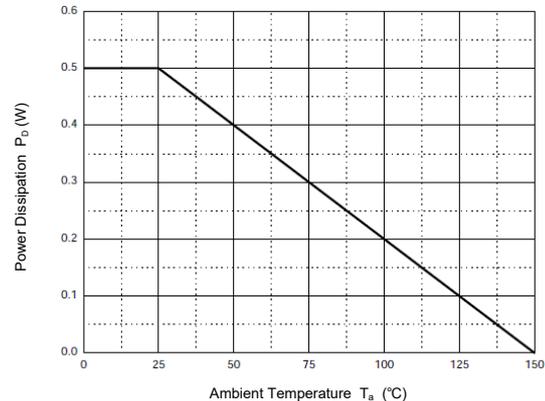
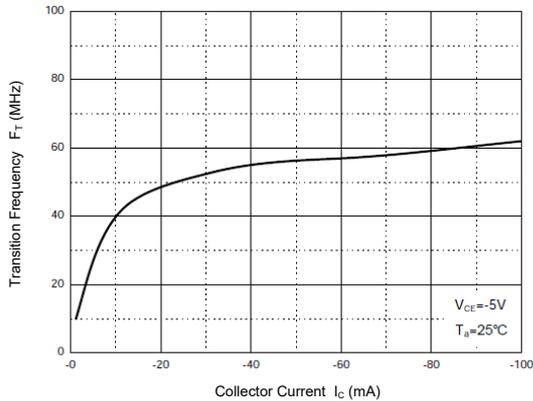
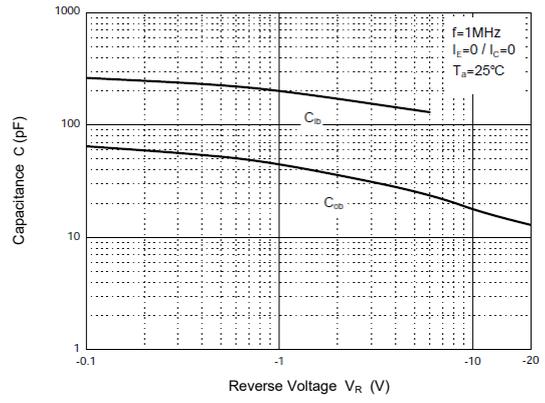
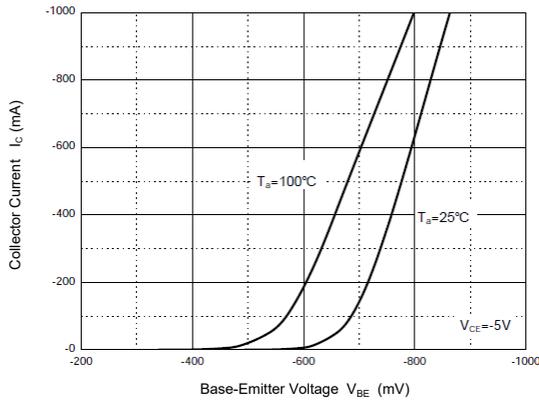
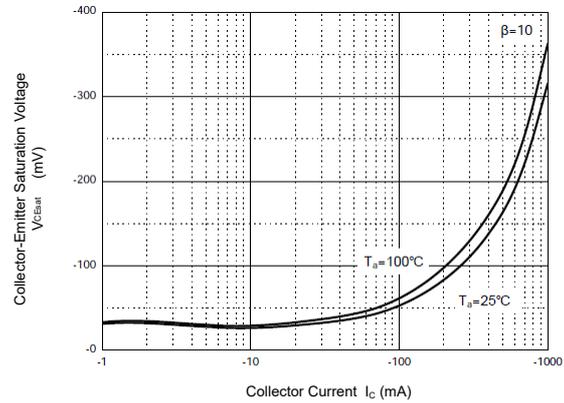
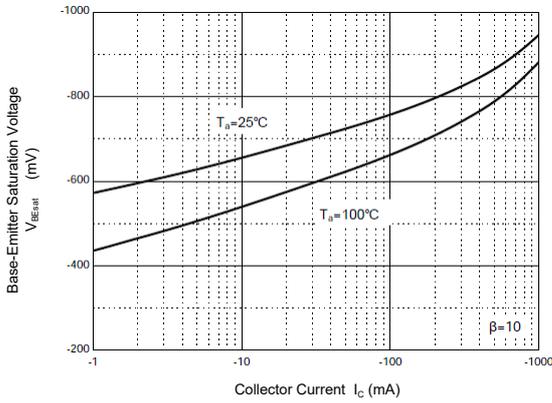
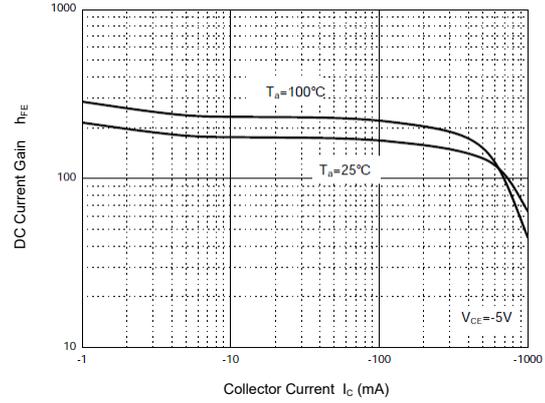
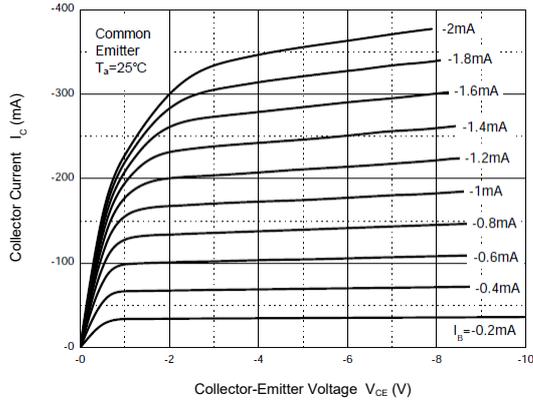
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100μA, I _E =0	-160		V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	-160		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-10μA, I _C =0	-6		V
Collector cut-off current	I _{CBO}	V _{CB} =-150V, I _E =0		-1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =-6V, I _C =0		-1	μA
DC current gain	h _{FE}	V _{CE} =-5V, I _C =-200mA	60	320	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-500mA, I _B =-50mA		-1.5	V
Base-emitter voltage	V _{BE}	I _C =-5mA, V _{CE} =-5V		-0.75	V
Transition frequency	f _T	V _{CE} =-5V, I _C =-200mA	15		MHz

CLASSIFICATION OF h_{FE}

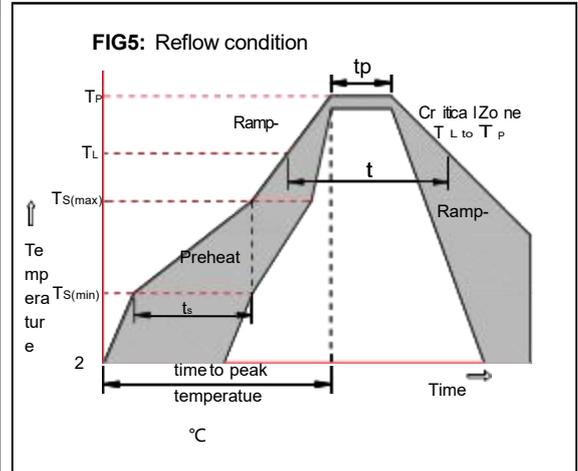
Rank	R	O	Y
Range	60-120	100-200	160-320

RATING AND CHARACTERISTIC CURVES



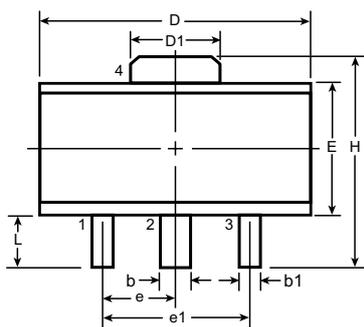
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max ($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature (T_L) (Liquid us)	+217 °C
	-Temperature (t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C

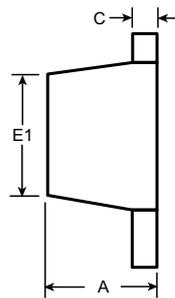


Package Dimensions & Suggested Pad Layout

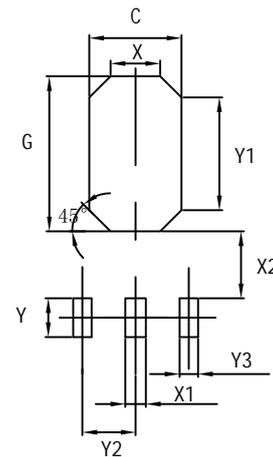
SOT89



Top View



Side View

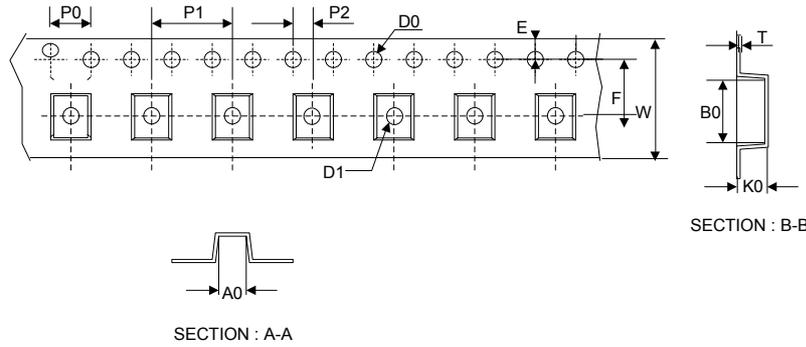


Symbol	A	b	b1	C	D	D1	E	E1	e	e1	H	L	
Dimensions (mm)	MIN	1.40	0.44	0.36	0.3	4.40	1.50	2.29	2.00 ^f	1.50	3.00	3.94	0.89
	NOM	-	-	-	-	-	-	-	BSC	BSC	-	-	
	MAX	1.60	0.56	0.48	0.5	4.60	1.75	2.60	2.29	-	-	4.25	1.20

Dimensions	Value (in mm)
C	2.50
G	3.60
X	1.40
X1	0.90
X2	0.90
Y	1.40
Y1	2.60
Y2	1.50
Y3	0.90

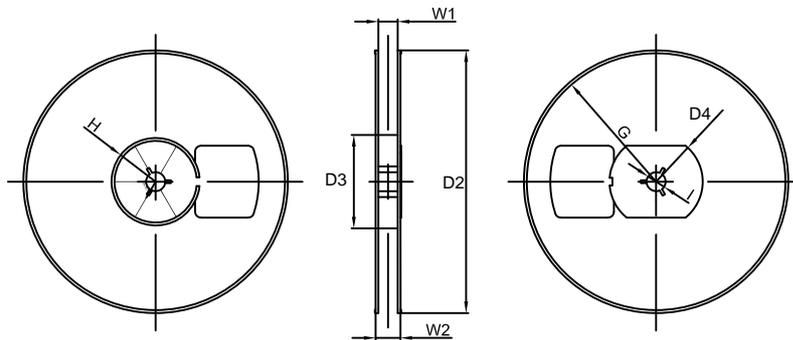
Tape & reel specification

Tape



Symbol	Dimension (mm)
P0	4.00±0.20
P1	8.00±0.20
P2	2.00±0.20
D0	1.60±0.20
D1	1.60±0.20
E	1.75±0.20
F	7.50±0.15
W	16.00±0.20
A0	6.30±0.20
B0	8.25±0.20
K0	2.60±0.20
T	0.23±0.10
D2	180.0±5.0
D3	60Min.
D4	R32.0±2.0
G	R86.5±2.0
H	R30.0±2.0
I	13.0±2.0
W1	13.20±2.0
W2	16.50±2.0

13" Reel



Quantity: 1000PCS