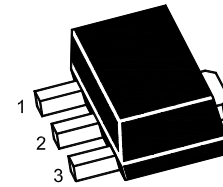


## Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

### FEATURE

- High voltage
- Large continuous collector current capability



1.Base 2.Collector 3.Emitter  
SOT-89 Plastic Package

MARKING: 1013

### MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ 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	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	250	$^\circ\text{C}/\text{W}$

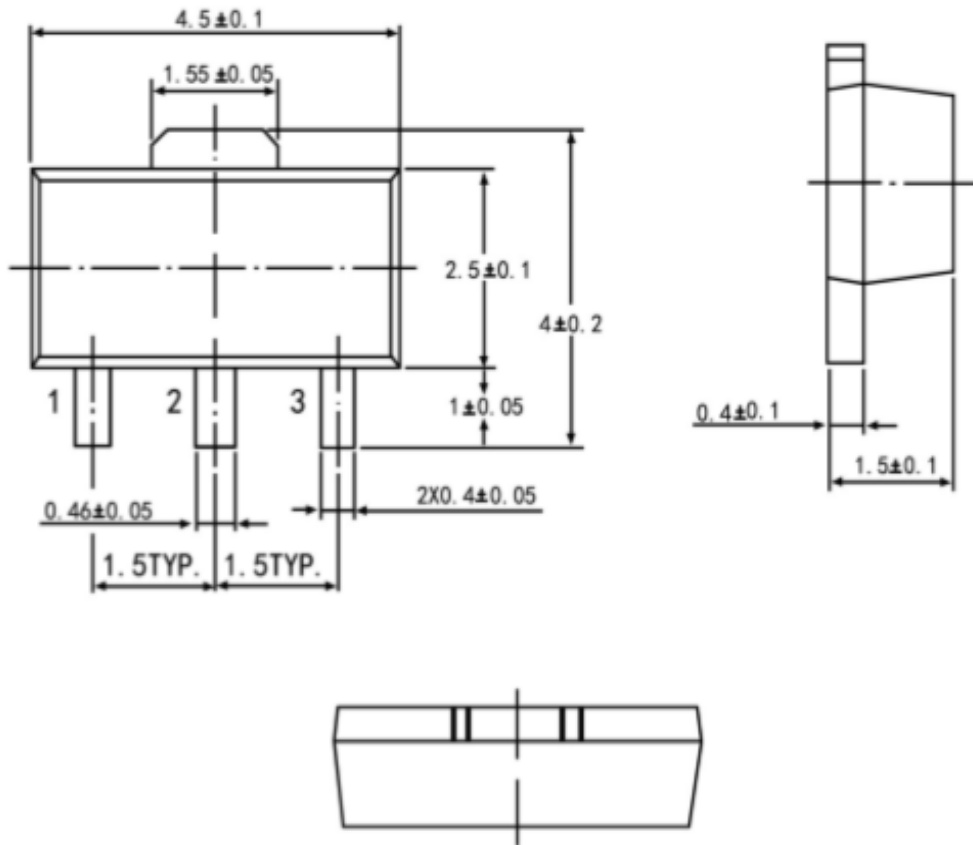
### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}$ , $I_E=0$	-160		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}$ , $I_B=0$	-160		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}$ , $I_C=0$	-6		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-150\text{V}$ , $I_E=0$		-1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-6\text{V}$ , $I_C=0$		-1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=-5\text{V}$ , $I_C=-200\text{mA}$	60	320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}$ , $I_B=-50\text{mA}$		-1.5	V
Base-emitter voltage	$V_{BE}$	$I_C=-5\text{mA}$ , $V_{CE}=-5\text{V}$		-0.75	V
Transition frequency	$f_T$	$V_{CE}=-5\text{V}$ , $I_C=-200\text{mA}$	15		MHz

### CLASSIFICATION OF $h_{FE}$

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

## SOT-89 PACKAGE OUTLINE



Symbol	Dimension in Millimeters	
	Min	Max
A	1.40	1.60
B	0.44	0.62
B1	0.35	0.54
C	0.35	0.44
D	4.40	4.60
D1	1.62	1.83
E	2.29	2.60
e	1.50 Typ	
H	3.94	4.25
H1	2.63	2.93
L	0.89	1.20
All Dimensions in mm		