

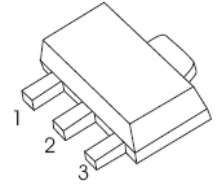
TRANSISTOR (NPN)

FEATURES

- Low Collector-Emitter Saturation Voltage
- Large Collector Power Dissipation
- Mini Power Type Package
- **Pb-Free package is available**
RoHS product for packing code suffix "G"
Halogen free product for packing code suffix "H"

SOT-89

1. BASE
2. COLLECTOR
3. EMITTER



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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	30	V
V _{CEO}	Collector-Emitter Voltage	25	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current	1	A
P _C	Collector Power Dissipation	500	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	250	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	30			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =2mA, I _B =0	25			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	5			V
Collector cut-off current	I _{CB0}	V _{CB} =20V, I _E =0			0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =4V, I _C =0			0.1	μA
DC current gain	h _{FE(1)}	V _{CE} =10V, I _C =500mA	85		340	
	h _{FE(2)}	V _{CE} =5V, I _C =1A	50			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =500mA, I _B =50mA			0.4	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =500mA, I _B =50mA			1.2	V
Transition frequency	f _T	V _{CE} =10V, I _C =50mA, f=200MHz		200		MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz			20	pF

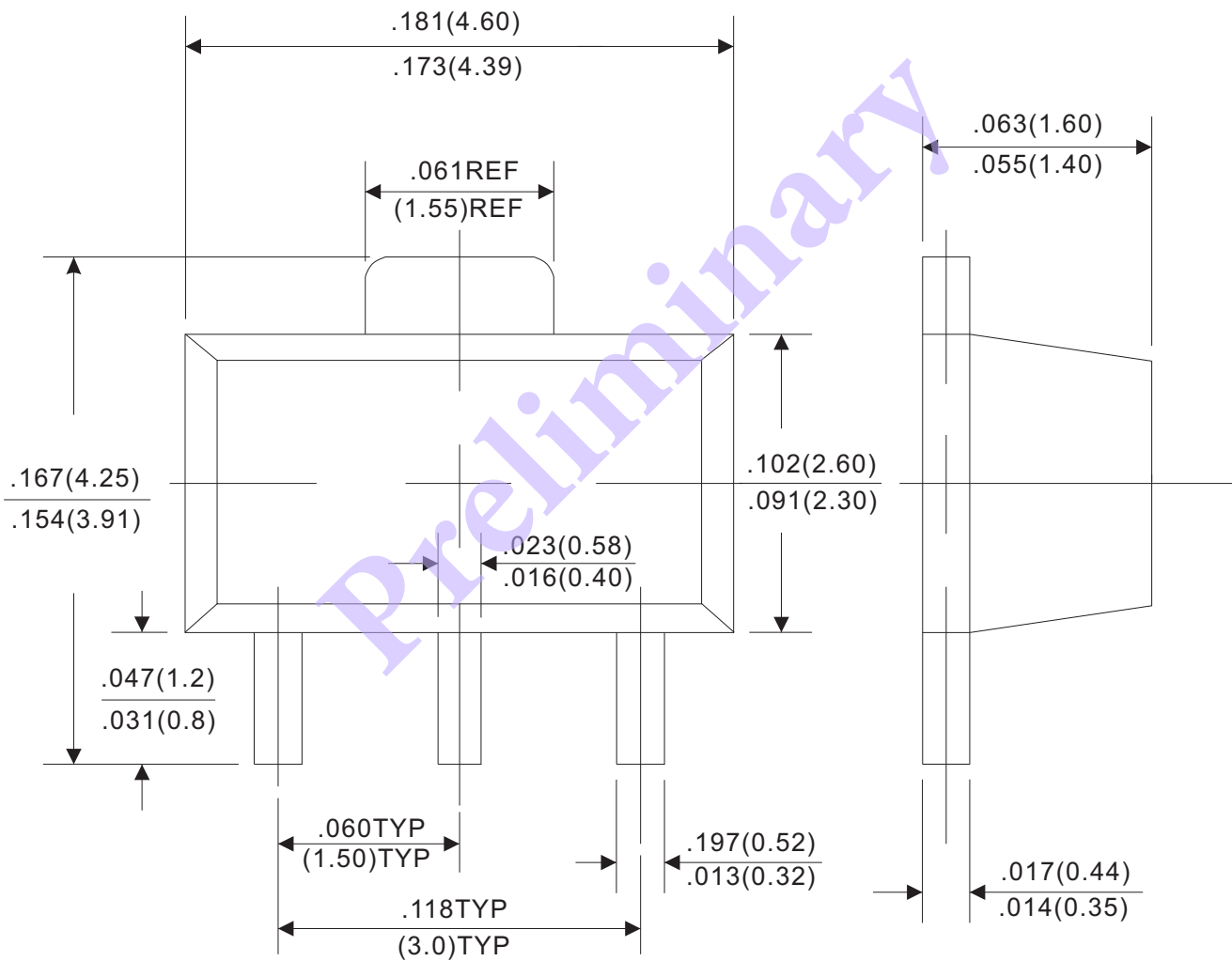
CLASSIFICATION OF h_{FE(1)}

RANK	Q	R	S
RANGE	85 - 170	120 - 240	170 - 340
MARKING	ZQ	ZR	ZS



Outline Drawing

SOT-89



Dimensions in inches and (millimeters)