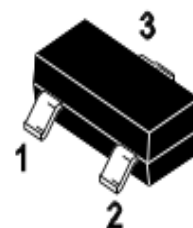


NPN Transistor

Features

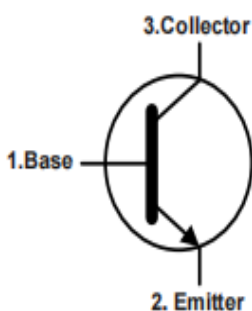
- For Switching and AF Amplifier Applications.

SOT-23


1.Base 2.Emitter 3.Collector

Marking Code : 6W

Equivalent Circuit



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	75	V
Collector Emitter Voltage	V_{CEO}	45	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	600	mA
Maximum Power Dissipation	P_D	300	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

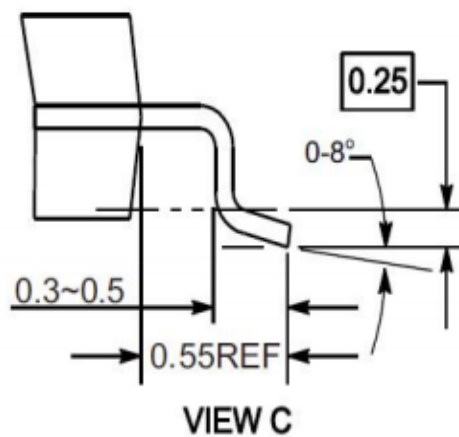
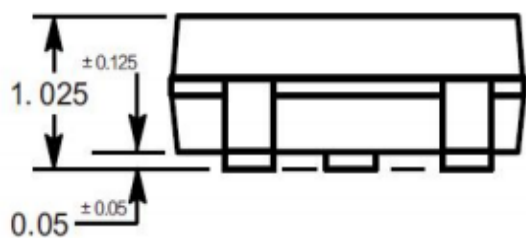
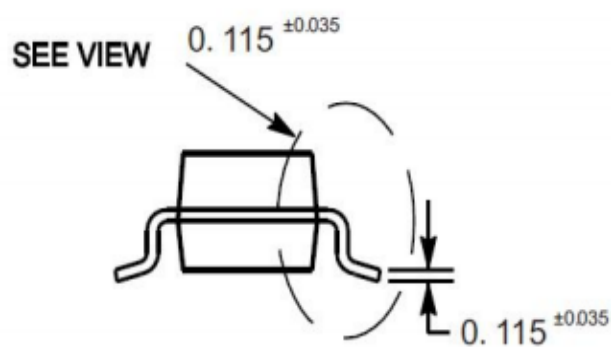
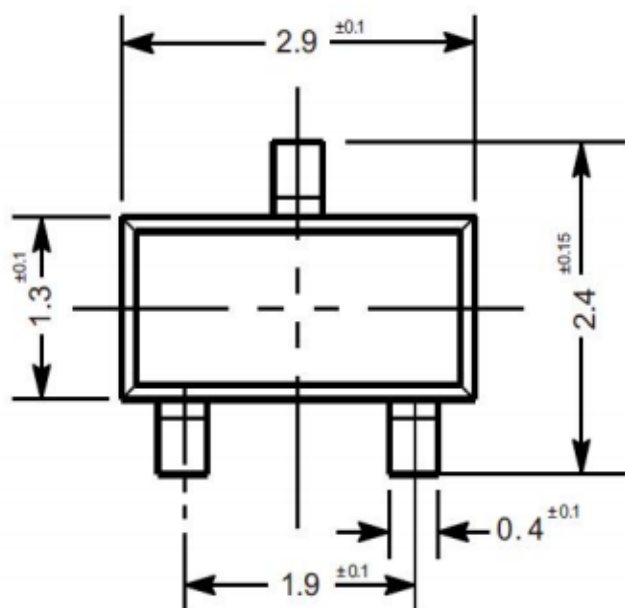
Electrical Characteristics (T_A=25°C)

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at V _{CE} = 10 V, I _C = 0.1 mA at V _{CE} = 1 V, I _C = 10 mA at V _{CE} = 1 V, I _C = 100 mA at V _{CE} = 2 V, I _C = 500 mA	H _{FE}	50 110 160 60	-- -- 400 --	--
Collector Base Cutoff Current at V _{CB} = 45V	I _{CBO}	--	20	nA
Emitter Base Cutoff Current at V _{EB} = 4 V	I _{EBO}	--	20	nA
Collector Base Breakdown Voltage at I _C = 10 μA	V _{(BR)CBO}	75	--	V
Collector Emitter Breakdown Voltage at I _C = 10 mA	V _{(BR)CEO}	45	--	V
Emitter Base Breakdown Voltage at I _E = 10 μA	V _{(BR)EBO}	5	--	V
Collector Emitter Saturation Voltage at I _C = 100 mA, I _B = 10 mA at I _C = 500 mA, I _B = 50 mA	V _{CE(sat)}	-- --	0.3 0.7	V
Base Emitter Saturation Voltage at I _C = 500 mA, I _B = 50 mA	V _{BE(sat)}	--	2	V
Transition Frequency at V _{CE} = 10 V, I _C = 20 mA, f = 100 MHz	F _T	100	--	MHz
Output Capacitance at V _{CB} = 10 V, f = 1 MHz	C _{ob}	--	12	pF

Package Outline

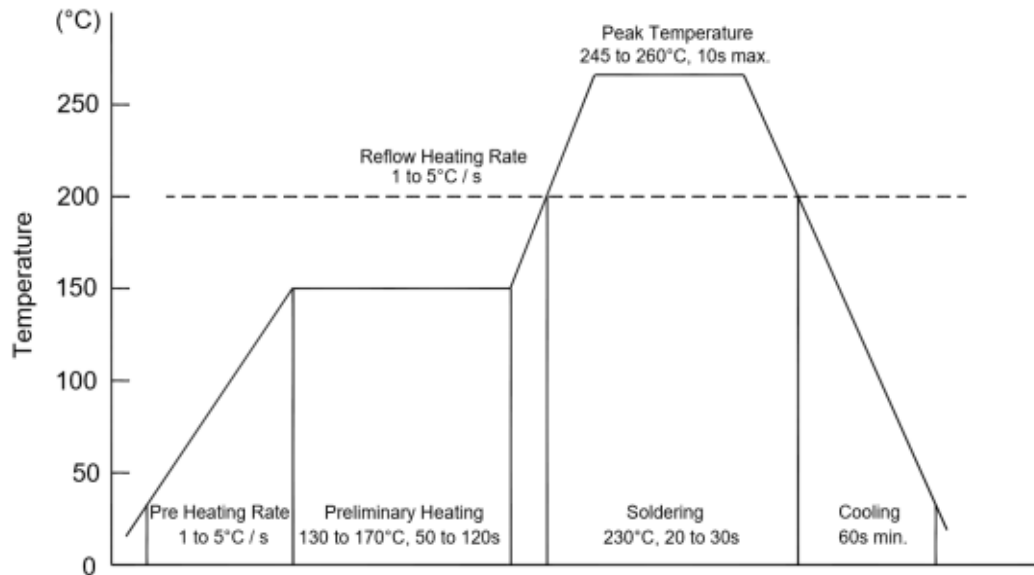
SOT-23

Dimensions in mm



Conditions of Soldering and Storage

◆ **Recommended condition of reflow soldering**



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters:

- Time length of peak temperature (longer)
- Time length of soldering (longer)
- Thickness of solder paste (thicker)

◆ **Conditions of hand soldering**

- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ **Storage conditions**

- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

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