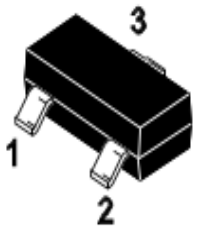
BCW66

NPN Transistor

Features

- For Switching and AF Amplifier Applications.

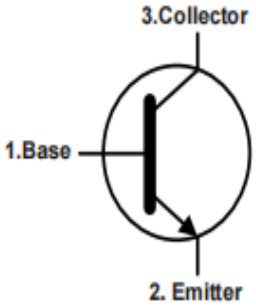
SOT-23



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

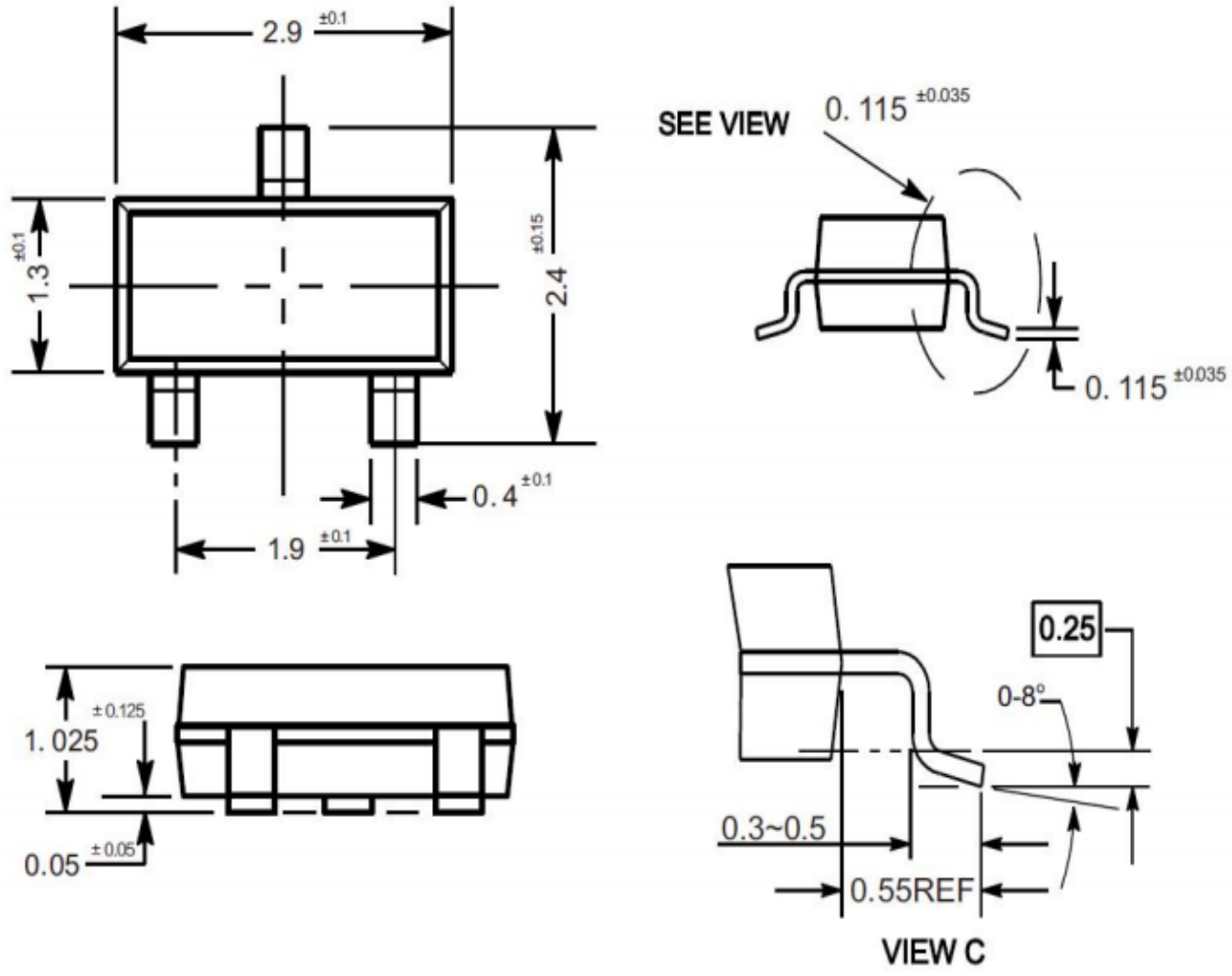
Electrical Characteristics (T_A=25℃)

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

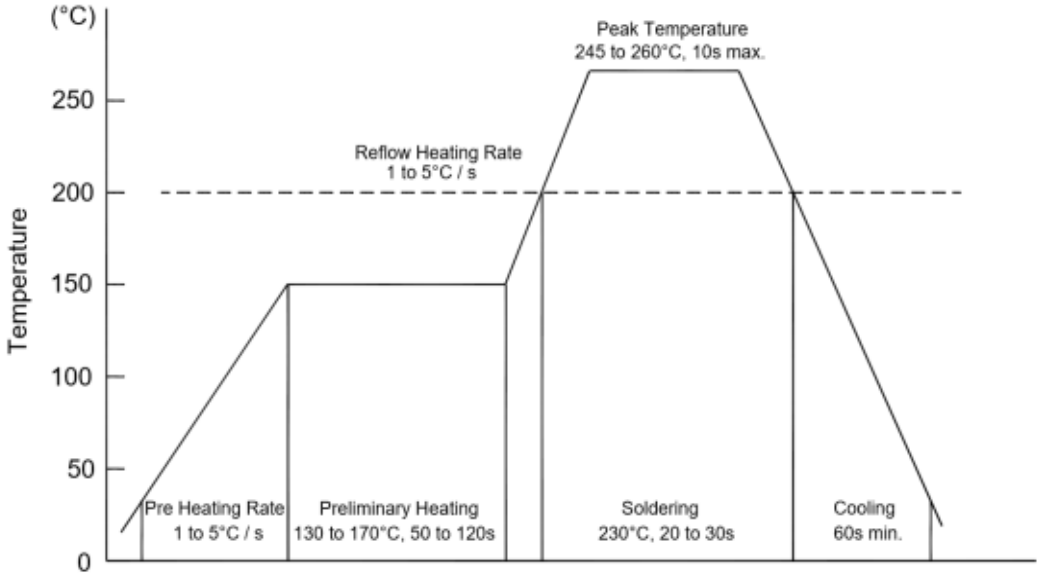
SOT-23

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