

TRANSISTOR (NPN)

Plastic-Encapsulate Transistor

FEATURES

Power dissipation

$$P_{CM} : 0.625W \text{ (Tamb=25}^{\circ}\text{C)}$$

Collector current

$$I_{CM} : 1.5A$$

Collector-base Voltage

$$V_{(BR)CBO} : 40 \text{ V}$$

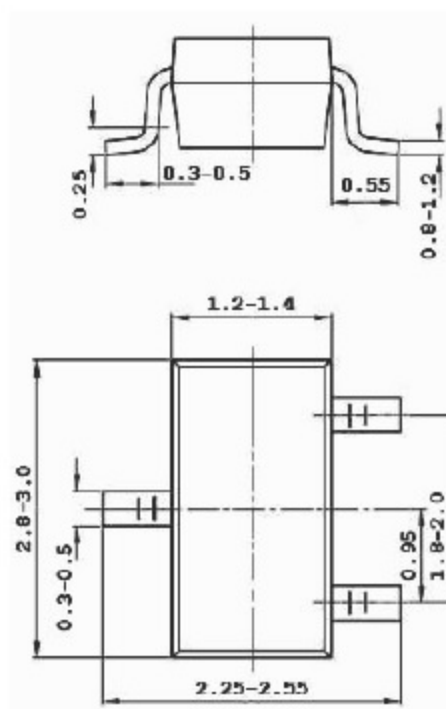
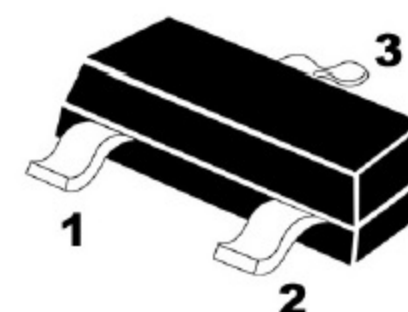
Operating and storage junction temperature range

$$T_J, T_{stg} : -55^{\circ}\text{C to } +150^{\circ}\text{C}$$

MARKING:Y1

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



Unit:mm

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ELECTRICAL CHARACTERISTICS

Parameters	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100 \mu A, I_E=0$	40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1mA, I_B=0$	25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100 \mu A, I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=40V, I_E=0$		0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=20V, I_B=0$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0 \text{ mA}$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1V, I_C=50mA$	120	400	
	$h_{FE(2)}$	$V_{CE}=1V, I_C=500mA$	40		
Collector-emitter saturation voltage	V_{CEsat}	$I_C=500mA, I_B=50mA$		0.5	V
Base-emitter saturation voltage	V_{BEsat}	$I_C=500mA, I_B=50mA$		1.2	V
Base-emitter voltage	V_{BEF}	$I_E=100mA$		1.6	V
Transition frequency	f_r	$V_{CE}=6V, I_C=20mA, f=30MHz$	100		MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	L	H	J
Range	120-200	200-350	300-400