

TRANSISTOR (NPN)
Plastic-Encapsulate Transistor
FEATURES

Power dissipation

$$P_{CM}: 0.4W \text{ (Tamb}=25^{\circ}\text{C)}$$

Collector current

$$I_{CM}: 0.15A$$

Collector-base voltage

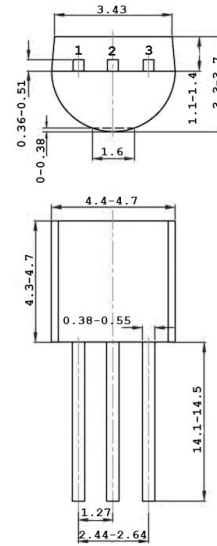
$$V_{(BR)CBO}: 60V$$

Operating and storage junction temperature range

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

TO-92

1. EMITTER
2. COLLECTOR
3. BASE



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	$V_{(BR)CBO}$	$I_C=1000 \mu A, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1mA, I_B=0$	50		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100 \mu A, I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=60V, I_E=0$		0.1	μA
Collector cut-off current	I_{CER}	$V_{CE}=55V, R=10M\Omega$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=6V, I_C=1mA$	70	700	
	$h_{FE(2)}$	$V_{CE}=6V, I_C=0.1mA$	40		
Collector-emitter saturation voltage	V_{CEsat}	$I_C=100mA, I_B=10mA$		0.3	V
Base-emitter saturation voltage	V_{BEsat}	$I_C=100mA, I_B=10mA$		1	V
Base-emitter voltage	V_{BE}	$I_E=310mA$		1.4	V
Transition frequency	f_r	$V_{CE}=6V, I_C=10mA$ $f=30MHz$	150		MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	R	Q	P	K
Range	70-140	120-240	200-400	350-700