

TRANSISTOR (NPN)
Plastic-Encapsulate Transistor
FEATURES

Power dissipation

$$P_{CM}: 0.31W (T_{amb}=25^{\circ}C)$$

Collector current

$$I_{CM}: 0.05A$$

Collector-base voltage

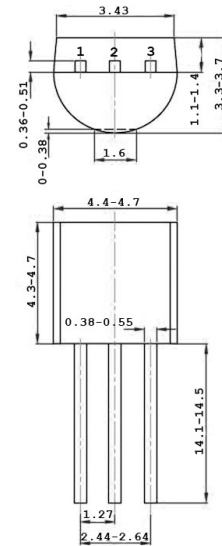
$$V_{(BR)CBO}: 25V$$

Operating and storage junction temperature range

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

TO-92

1. EMITTER
2. BASE
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	$V_{(BR)CBO}$	$I_C=100 \mu A, I_E=0$	25		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1mA, I_B=0$	18		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100 \mu A, I_C=0$	4		V
Collector cut-off current	I_{CBO}	$V_{CB}=20V, I_E=0$		0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=15V, I_B=0$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3V, I_C=0$		0.1	μA
DC current gain	h_{FE}	$V_{CE}=5V, I_C=1mA$	28	270	
Collector-emitter saturation voltage	V_{CEsat}	$I_C=10mA, I_B=1mA$		0.5	V
Base-emitter saturation voltage	V_{BEsat}	$I_C=10mA, I_B=1mA$		1.4	V
Transition frequency	f_r	$V_{CE}=5V, I_C=5mA$ $f=400MHz$	600		MHz

CLASSIFICATION OF h_{FE}

Rank	D	E	F	G	H	I	J
Range	28-45	39-60	54-80	72-108	97-146	132-198	180-270