

TRANSISTOR (NPN)

Plastic-Encapsulate Transistor

FEATURES	
Power dissipation	P_{CM} : 0.625W ($T_{amb}=25^{\circ}C$)
Collector current	I_{CM} : -0.5A
Collector-base voltage	$V_{(BR)CBO}$: 40V
Operating and storage junction temperature range	T_J, T_{stg} : $-55^{\circ}C$ 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	$V_{(BR)CBO}$	$I_C=100 \mu A, I_E=0$	45		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}	$V_{EB}=5V, I_C=0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1V, I_C=50mA$	64	300	
	$h_{FE(2)}$	$V_{CE}=1V, I_C=500mA$	40		
Collector-emitter saturation voltage	V_{CEsat}	$I_C=500mA, I_B=50mA$		0.6	V
Base-emitter saturation voltage	V_{BEsat}	$I_C=500mA, I_B=50mA$		1.2	V
Base-emitter voltage	V_{BE}	$I_E=100mA$		1.4	V
Transition frequency	f_r	$V_{CE}=6V, I_C=-20mA$ $f=30MHz$	150		MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	D	E	F	G	H	I
Range	64-91	78-112	96-135	112-166	144-202	190-300