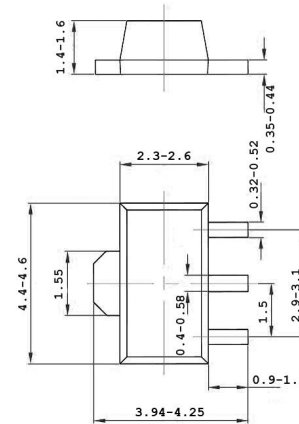


TRANSISTOR (NPN)
Plastic-Encapsulate Transistor
FEATURES

- Power dissipation

MARKING: TQ, TR
SOT-89

1. BASE
2. COLLECTOR
3. EMITTER



UNIT:mm

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

MAXIMUM RATINGS

Parameters	Symbols	Value	UNITS
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current - Continuous	I_C	3	A
Collector Dissipation	P_C	500	mW
Junction and Storage Temperature	T_J, T_{stg}	-55-150	°C

ELECTRICAL CHARACTERISTICS

Parameters	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	40			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	25			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	7			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=10V, I_E=0$			0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=6V, I_C=0$			0.1	μA
DC Current Gain	$h_{FE(1)}$ $h_{FE(2)}$	$V_{CE}=2V, I_C=500mA$ $V_{CE}=2V, I_C=2A$	230 150		600	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3A, I_B=0.1A$			1	V
Transition Frequency	f_T	$V_{CE}=6V, I_C=50mA,$ $f=200MHz$		150		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=20V, f=1MHz$			50	pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	Q	R
Range	230-380	340-600