

TRANSISTOR (NPN)
Plastic-Encapsulate Transistor

FEATURES

- Power dissipation

MARKING : TR , TS

SOT-323

1. BASE
2. EMITTER
3. COLLECTOR

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}	120	V
Collector-Emitter Voltage	V_{CEO}	120	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current - Continuous	I_C	50	mA
Collector Dissipation	P_C	200	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	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	120			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	120			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=100V, I_E=0$			0.5	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4V, I_C=0$			0.5	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=6V, I_C=2mA$	180		560	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.5	V
Transition Frequency	f_T	$V_{CE}=12V, I_C=2mA, f=100MHz$		140		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=12V, I_E=0, f=1MHz$		2.5		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	R	S
Range	180-390	270-560

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