

TRANSISTOR (NPN)

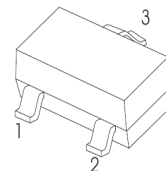
FEATURES

- Excellent h_{FE} Linearity
- Switching Applications

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	35	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	500	mA
P_C	Collector Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	833	$^{\circ}\text{C/W}$
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

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1. BASE
2. EMITTER
3. COLLECTOR

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$, $I_E=0$	35			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$, $I_B=0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$, $I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=35\text{V}$, $I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}$, $I_C=100\text{mA}$	70		400	
	$h_{FE(2)}$	$V_{CE}=6\text{V}$, $I_C=400\text{mA}$	25		70	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}$, $I_B=10\text{mA}$			0.25	V
Base-emitter voltage	V_{BE}	$V_{CE}=1\text{V}$, $I_C=100\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=6\text{V}$, $I_C=20\text{mA}$		300		MHz
Collector output capacitance	C_{ob}	$V_{CB}=6\text{V}$, $I_E=0$, $f=1\text{MHz}$		7		pF

CLASSIFICATION OF $h_{FE(1)}$, $h_{FE(2)}$

RANK	O	Y	GR(G)
RANGE $h_{FE(1)}$	70 - 140	120 - 240	200 - 400
RANGE $h_{FE(2)}$	25Min	40Min	70Min
MARKING	WO	WY	WG