

TO-251-3L Plastic-Encapsulate Transistors

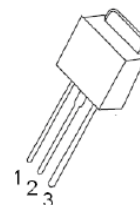
2SC3303 TRANSISTOR (NPN)

FEATURES

- Low Collector Saturation Voltage
- High Speed Switching Time

TO-251-3L

1. BASE
2. COLLECTOR
3. EMITTER



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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current	5	A
P_C	Collector Power Dissipation	1	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	125	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	7			V
Collector cut-off current	I_{CBO}	$V_{CB}=100\text{V}, I_E=0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=7\text{V}, I_C=0$			1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C=1\text{A}$	70		240	
	$h_{FE(2)}$	$V_{CE}=1\text{V}, I_C=3\text{A}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=150\text{mA}$			0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=3\text{A}, I_B=150\text{mA}$			1.2	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		80		pF
Transition frequency	f_T	$V_{CE}=4\text{V}, I_C=1\text{A}$		20		MHz

CLASSIFICATION OF $h_{FE(1)}$

RANK	O	Y
RANGE	70-140	120-240