

TO-92 Plastic-Encapsulate Transistors

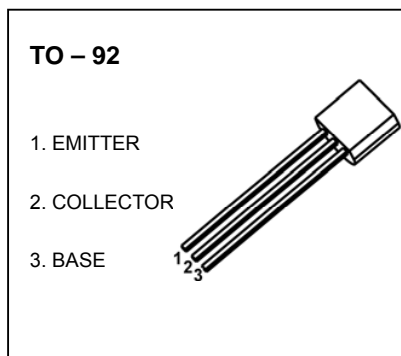
2SD2152 TRANSISTOR (NPN)

FEATURES

- High DC Current Gain
- Low Saturation Medium Current Application

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

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	22	V
V_{CEO}	Collector-Emitter Voltage	22	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	3	A
P_C	Collector Power Dissipation	700	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	178	$^\circ\text{C}/\text{W}$
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	$V_{(BR)CB0}$	$I_C=0.05\text{mA}, I_E=0$	22			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	22			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.01\text{mA}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=20\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=2\text{V}, I_C=0.15\text{mA}$	130			
	$h_{FE(2)}$	$V_{CE}=2\text{V}, I_C=100\text{mA}$	180		950	
	$h_{FE(3)}$	$V_{CE}=2\text{V}, I_C=500\text{mA}$	180			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2000\text{mA}, I_B=100\text{mA}$			0.4	V
Transition frequency	f_T	$V_{CE}=6\text{V}, I_C=50\text{mA}, f=30\text{MHz}$	150			MHz

CLASSIFICATION OF h_{FE}

RANK	Q	R	S	T
RANGE	180-290	270-380	340-560	560-950