

TO-220 Plastic-Encapsulated Transistors

TIP120, 121, 122 Darlington TRANSISTOR (NPN)

FEATURES

Power dissipation

P_{CM} : 2 W ($T_{amb}=25^{\circ}C$)

Collector current

I_{CM} : 5 A

Collector-base voltage

$V_{(BR)CBO}$: TIP120: 60 V

TIP121: 80 V

TIP122: 100 V

Operating and storage junction temperature range

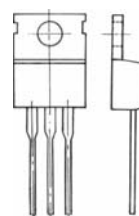
T_J, T_{stg} : $-65^{\circ}C$ to $+150^{\circ}C$

TO-220

1. BASE

2. COLLECTOR

3. EMITTER



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

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage TIP120 TIP121 TIP122	$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	60 80 100		V
Collector-emitter breakdown voltage TIP120 TIP121 TIP122	$V_{(BR)CEO}$	$I_C = 100mA, I_B = 0$	60 80 100		V
Collector cut-off current TIP120 TIP121 TIP122	I_{CBO}	$V_{CB} = 60V, I_E = 0$ $V_{CB} = 80V, I_E = 0$ $V_{CB} = 100V, I_E = 0$		0.2 0.2 0.2	μA
Collector cut-off current TIP120 TIP121 TIP122	I_{CEO}	$V_{CE} = 30V, I_B = 0$ $V_{CE} = 40V, I_B = 0$ $V_{CE} = 50V, I_B = 0$		0.5 0.5 0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$		2	mA
DC current gain	h_{FE}	$V_{CE} = 3V, I_C = 0.5A$ $V_{CE} = 3V, I_C = 3A$	1000 1000		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3A, I_B = 12mA$ $I_C = 5A, I_B = 20mA$		2 4	V
Base-emitter ON voltage	$V_{BE(on)}$	$V_{CE} = 3V, I_C = 3A$		2.5	V