

### TIP120, 121, 122 Darlington TRANSISTOR (NPN)

#### FEATURES

Power dissipation

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

Collector current

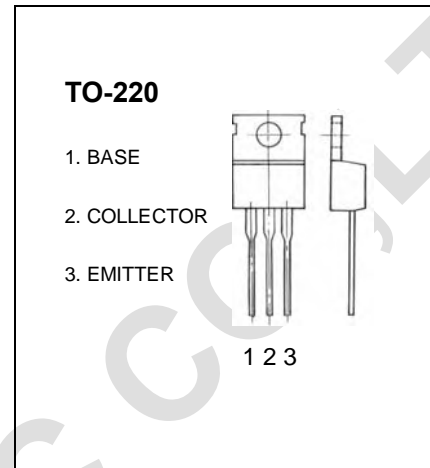
$I_{CM}$ : 5 A

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  $+150^{\circ}C$



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

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	60 80 100		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=100mA, I_B=0$	60 80 100		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60V, I_E=0$ $V_{CB}=80V, I_E=0$ $V_{CB}=100V, I_E=0$		0.2 0.2 0.2	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=30V, I_B=0$ $V_{CE}=40V, I_B=0$ $V_{CE}=50V, I_B=0$		0.5 0.5 0.5	$\mu A$
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