

TIP122 Darlington TRANSISTOR (NPN)

FEATURES

- Medium Power Complementary Silicon Transistors



TO-263

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	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	5	A
P_C	Collector Power Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	62.5	$^{\circ}\text{C/W}$
$R_{\theta JC}$	Thermal Resistance from Junction to Case	1.92	$^{\circ}\text{C/W}$
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	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	100			V
Collector-emitter breakdown voltage	$V_{CEO(SUS)}$	$I_C=30\text{mA}, I_B=0$	100			V
Collector cut-off current	I_{CBO}	$V_{CB}=100\text{V}, I_E=0$			0.2	mA
Collector cut-off current	I_{CEO}	$V_{CE}=50\text{V}, I_B=0$			0.5	mA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			2	mA
DC current gain	$h_{FE(1)}$	$V_{CE}=3\text{V}, I_C=0.5\text{A}$	1000			
	$h_{FE(2)}$	$V_{CE}=3\text{V}, I_C=3\text{A}$	1000		12000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=12\text{mA}$			2	V
		$I_C=5\text{A}, I_B=20\text{mA}$			4	V
Base-emitter voltage	V_{BE}	$V_{CE}=3\text{V}, I_C=3\text{A}$			2.5	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$			200	pF

Static Characteristic
