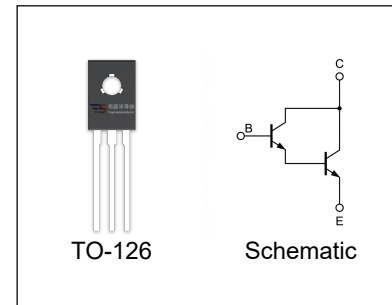


TIP122 Darlington Transistor (NPN)

TIP127 Darlington Transistor (PNP)

FEATURES

- Medium Power Complementary Silicon Transistors



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

Symbol	Parameter	TIP122	TIP127	Unit
V_{CBO}	Collector-Base Voltage	100	-100	V
V_{CEO}	Collector-Emitter Voltage	100	-100	V
V_{EBO}	Emitter-Base Voltage	5	-5	V
I_C	Collector Current -Continuous	5	-5	A
P_C^*	Collector Power Dissipation	1.25		W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	100		$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance Junction to Case	8.33		$^{\circ}\text{C}/\text{W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150		$^{\circ}\text{C}$

$T_a=25^{\circ}\text{C}$ unless otherwise specified

TIP122					NPN
Parameter	Symbol	Test conditions	Min	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	
Base-emitter voltage	V_{BE}	$V_{CE}=3\text{V}, I_C=3\text{A}$		2.5	V
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$		200	pF

TIP127					PNP
Parameter	Symbol	Test conditions	Min	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	
Base-emitter voltage	V_{BE}	$V_{CE}=-3\text{V}, I_C=-3\text{A}$		-2.5	V
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, I_E=0, f=0.1\text{MHz}$		300	pF

* This test is performed with no heat sink at $T_a=25^{\circ}\text{C}$.

TIP127

