

**isc Silicon PNP Darlington Power Transistor**

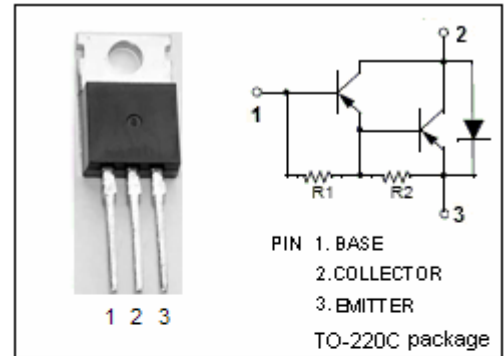
**TIP127**

**DESCRIPTION**

- High DC Current Gain-  
:  $h_{FE} = 1000(\text{Min}) @ I_C = -3\text{A}$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = -100\text{V}(\text{Min})$
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(\text{sat})} = -2.0\text{V}(\text{Max}) @ I_C = -3\text{A}$   
=  $-4.0\text{V}(\text{Max}) @ I_C = -5\text{A}$
- Complement to Type TIP122

**APPLICATIONS**

- Designed for general purpose amplifier and low speed switching applications.

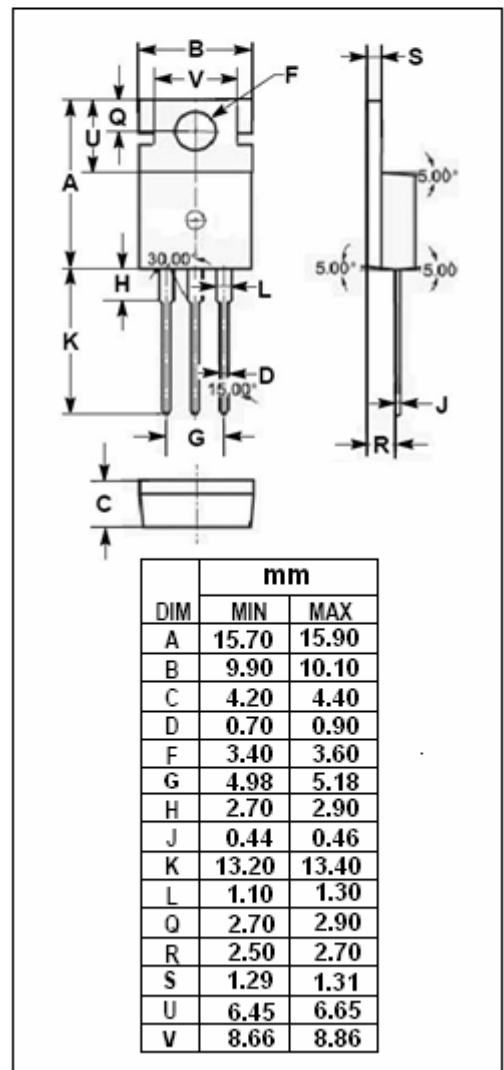


**ABSOLUTE MAXIMUM RATINGS (Ta=25°C)**

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-Continuous	-5	A
$I_{CM}$	Collector Current-Peak	-8	A
$I_B$	Base Current-DC	-120	mA
$P_C$	Collector Power Dissipation $T_C=25^\circ\text{C}$	65	W
	Collector Power Dissipation $T_a=25^\circ\text{C}$	2	
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature Range	-65~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.92	°C/W
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	°C/W



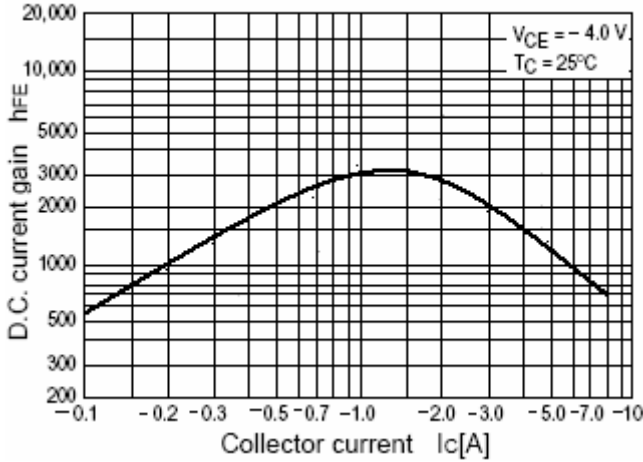
**isc Silicon PNP Darlington Power Transistor****TIP127****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -0.1\text{A}, I_B = 0$	-100			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -3\text{A}, I_B = -12\text{mA}$			-2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation voltage	$I_C = -5\text{A}, I_B = -20\text{mA}$			-4.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -3.0\text{A}; V_{CE} = -3\text{V}$			-2.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -100\text{V}, I_E = 0$			-0.2	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = -50\text{V}, I_B = 0$			-0.5	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-2	mA
$h_{FE-1}$	DC Current Gain	$I_C = -0.5\text{A}; V_{CE} = -3\text{V}$	1000			
$h_{FE-2}$	DC Current Gain	$I_C = -3.0\text{A}; V_{CE} = -3\text{V}$	1000			
$C_{OB}$	Output Capacitance	$I_E = 0; V_{CB} = -10\text{V}, f = 0.1\text{MHz}$			300	pF

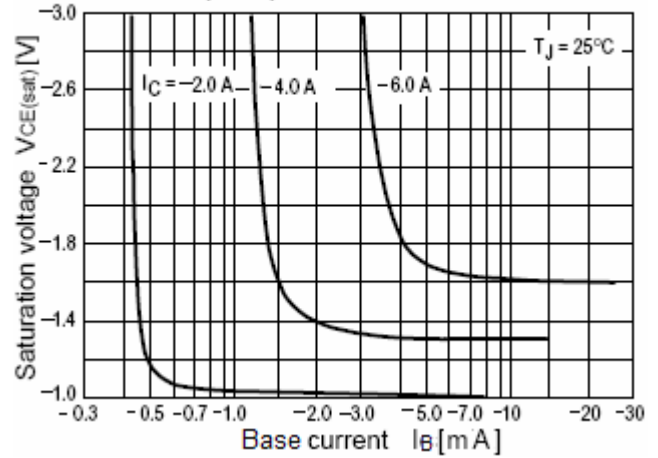
isc Silicon PNP Darlington Power Transistor

TIP127

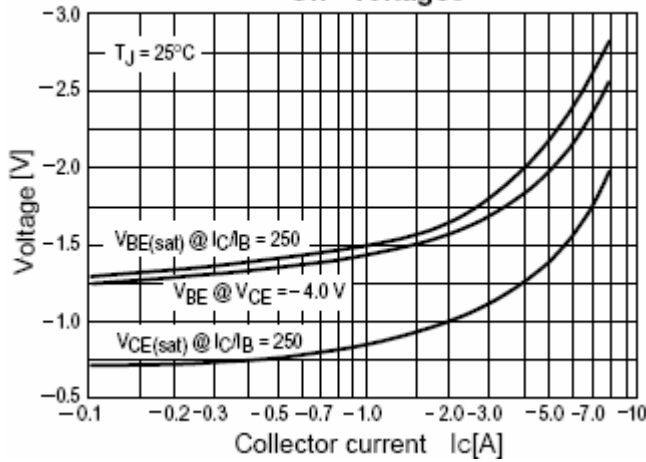
**$h_{FE}-I_C$  Characteristics**



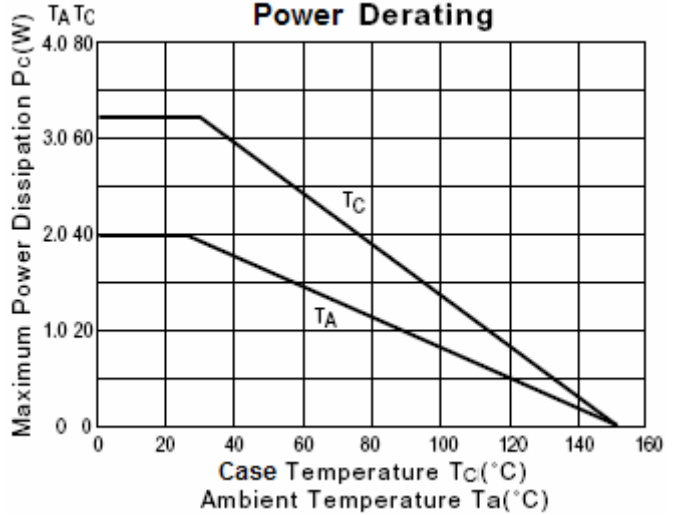
**$V_{CE(sat)}-I_B$  Characteristics**



**"On" Voltages**



**Power Derating**



**Safe Operating Area**

