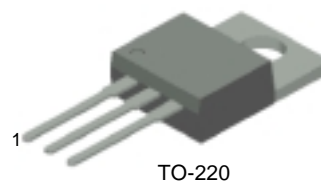


TIP100/101/102

Monolithic Construction With Built In Base-Emitter Shunt Resistors

- High DC Current Gain : $h_{FE}=1000$ @ $V_{CE}=4V$, $I_C=3A$ (Min.)
- Collector-Emitter Sustaining Voltage
- Low Collector-Emitter Saturation Voltage
- Industrial Use
- Complementary to TIP105/106/107



TO-220

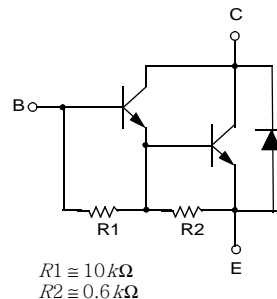
1.Base 2.Collector 3.Emmitter

NPN Epitaxial Silicon Darlington Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	: TIP100	60 V
		: TIP101	80 V
		: TIP102	100 V
V_{CEO}	Collector-Emitter Voltage	: TIP100	60 V
		: TIP101	80 V
		: TIP102	100 V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	8	A
I_{CP}	Collector Current (Pulse)	15	A
I_B	Base Current (DC)	1	A
P_C	Collector Dissipation ($T_a=25^\circ\text{C}$)	2	W
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	80	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 65 ~ 150	$^\circ\text{C}$

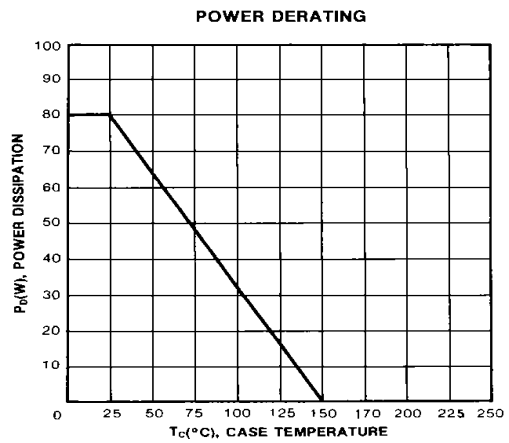
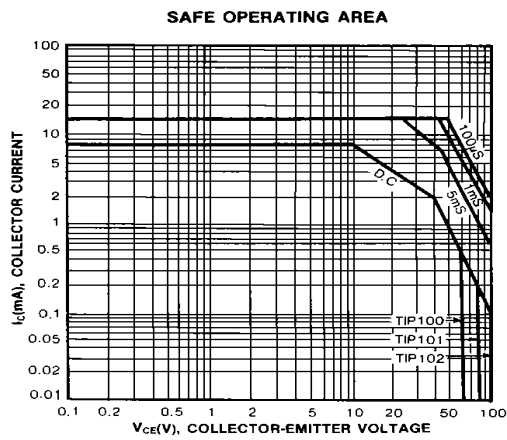
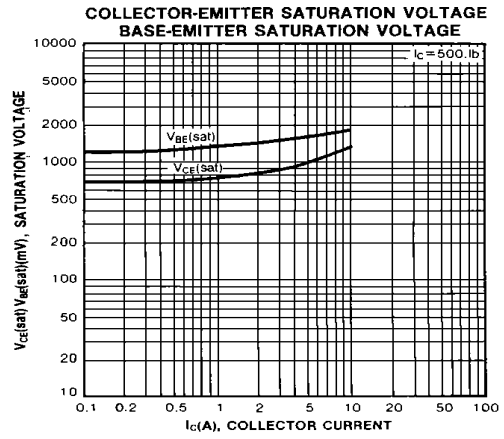
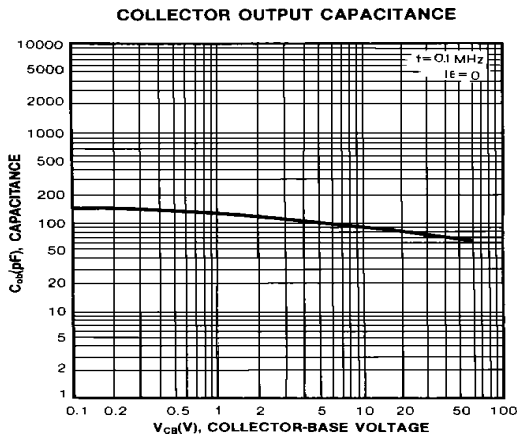
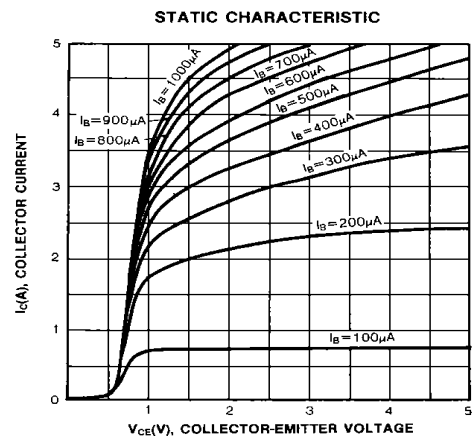
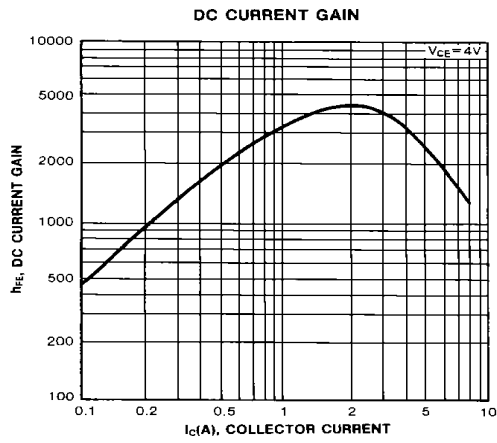
Equivalent Circuit



Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

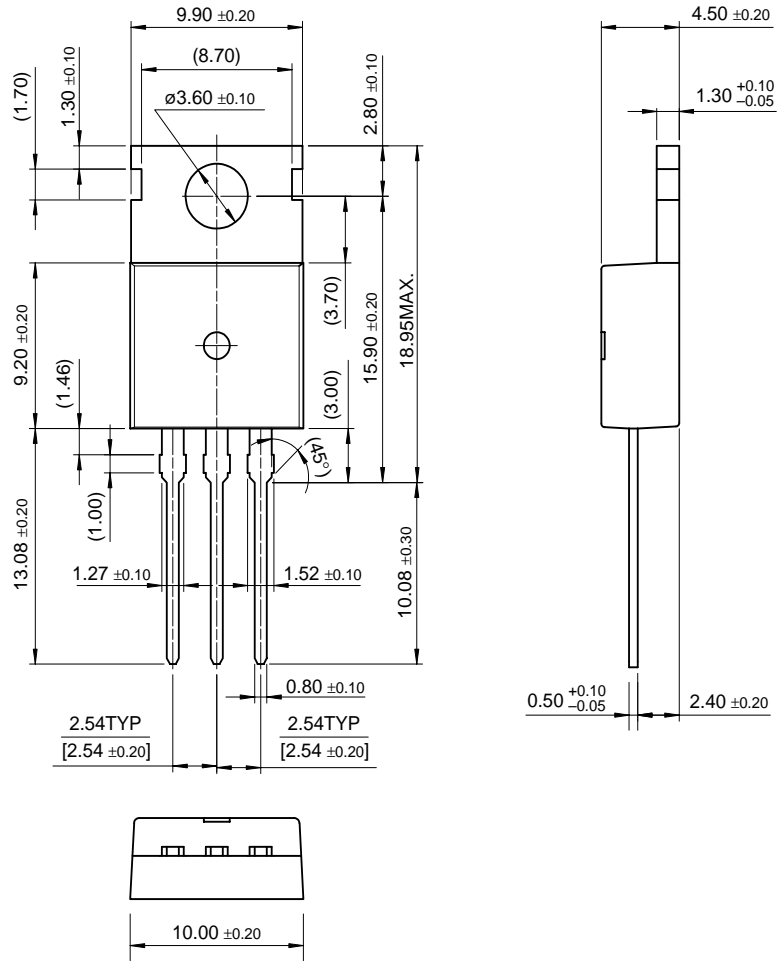
Symbol	Parameter	Test Condition	Min.	Max.	Units	
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage	$I_C = 30\text{mA}$, $I_B = 0$: TIP100	60	V	
			: TIP101	80	V	
			: TIP102	100	V	
			I_{CEO}	Collector Cut-off Current		
		: TIP100	$V_{CE} = 30\text{V}$, $I_B = 0$	50	μA	
		: TIP101	$V_{CE} = 40\text{V}$, $I_B = 0$	50	μA	
		: TIP102	$V_{CE} = 50\text{V}$, $I_B = 0$	50	μA	
I_{CBO}	Collector Cut-off Current		: TIP100	$V_{CE} = 60\text{V}$, $I_E = 0$	50	μA
			: TIP101	$V_{CE} = 80\text{V}$, $I_E = 0$	50	μA
			: TIP102	$V_{CE} = 100\text{V}$, $I_E = 0$	50	μA
			I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5\text{V}$, $I_C = 0$	
h_{FE}	DC Current Gain		$V_{CE} = 4\text{V}$, $I_C = 3\text{A}$	1000	2000	
			$V_{CE} = 4\text{V}$, $I_C = 8\text{A}$	200		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C = 3\text{A}$, $I_B = 6\text{mA}$		2	V
			$I_C = 8\text{A}$, $I_B = 80\text{mA}$		2.5	V
$V_{BE(on)}$	Base-Emitter ON Voltage	$V_{CE} = 4\text{V}$, $I_C = 8\text{A}$		2.8	V	
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 0.1\text{MHz}$		200	pF	

Typical Characteristics



Package Dimensions

TO-220



TIP100/101/102

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FACT Quiet Series™	QS™	
FAST®	Quiet Series™	
FASTr™	SuperSOT™-3	
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