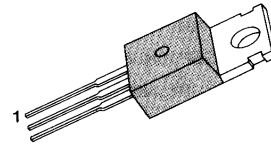


NPN EPITAXIAL TIP110/111/112 SILICON DARLINGTON TRANSISTOR

HIGH DC CURRENT GAIN
MIN $h_{FE}=1000$ @ $V_{CE}=4V$, $I_C=1A$
LOW COLLECTOR-EMITTER SATURATION VOLTAGE
MONOLITHIC CONSTRUCTION WITH BUILT IN BASE-EMITTER SHUNT RESISTORS
INDUSTRIAL USE
 Complementary to TIP115/116/117

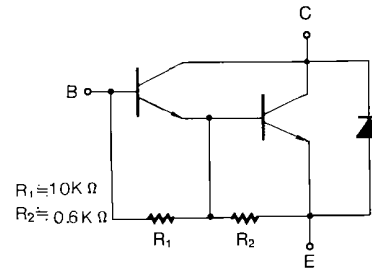
TO-220



1.Base 2.Collector 3.Emitter

ABSOLUTE MAXIMUM RATINGS

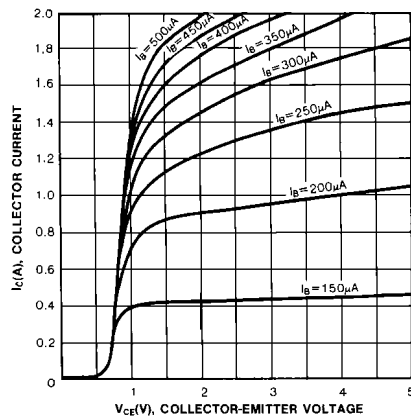
Characteristic	Symbol	Rating	Unit
Collector Emitter Voltage :TIP110	V_{CBO}	60	V
: TIP111		80	V
: TIP112		100	V
Collector Emitter Voltage			
: TIP110	V_{CEO}	60	V
: TIP111		80	V
: TIP112		100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	2	A
Collector Current (Pulse)	I_C	4	A
Base Current (DC)	I_B	50	mA
Collector Dissipation ($T_A=5^{\circ}C$)	P_C	2	W
Collector Dissipation ($T_C=5^{\circ}C$)	P_C	50	W
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-65~150	$^{\circ}C$



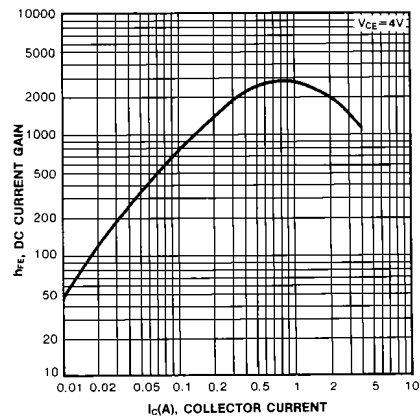
ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}C$)

Characteristic	Symbol	Test Conditions	Min	Max	Unit
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}$				
: TIP110		$I_C = 30mA$, $I_B = 0$	60		V
: TIP111			80		V
: TIP112			100		V
Collector Cutoff Current	I_{CEO}	$V_{CE} = 30V$, $I_B = 0$		2	mA
: TIP111		$V_{CE} = 40V$, $I_B = 0$		2	mA
: TIP112		$V_{CE} = 50V$, $I_B = 0$		2	mA
Collector Cutoff Current	I_{CBO}	$V_{CB} = 60V$, $I_E = 0$		1	mA
: TIP111		$V_{CB} = 80V$, $I_E = 0$		1	mA
: TIP112		$V_{CB} = 100V$, $I_E = 0$		1	mA
Emitter Cutoff Current	I_{EBO}	$V_{BE} = 5V$, $I_C = 0$		2	mA
DC Current Gain	h_{FE}	$V_{CE} = 4V$, $I_C = 1A$	1000		
		$V_{CE} = 4V$, $I_C = 2A$	500		
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2A$, $I_B = 8mA$		2.5	V
Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 4V$, $I_C = 2A$		2.8	V
Output Capacitance	C_{OB}	$V_{CB} = 10V$, $I_E = 0$, $f = 0.1MHz$		100	pF

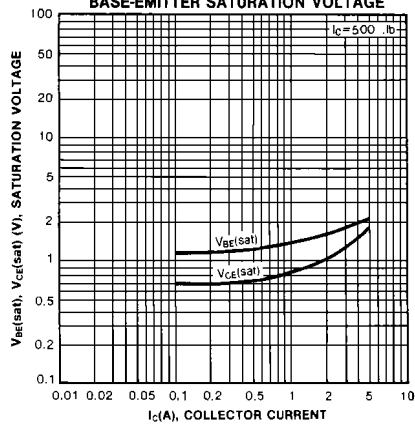
STATIC CHARACTERISTIC



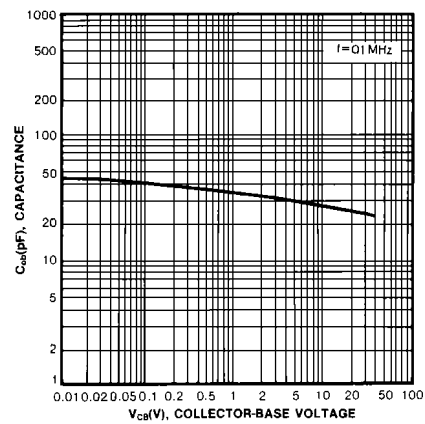
DC CURRENT GAIN



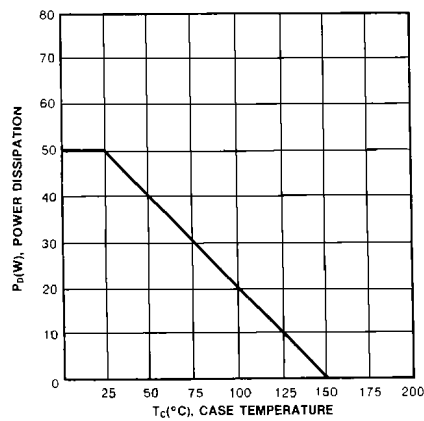
COLLECTOR-EMITTER SATURATION VOLTAGE
BASE-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



POWER DERATING



SAFE OPERATING AREA

