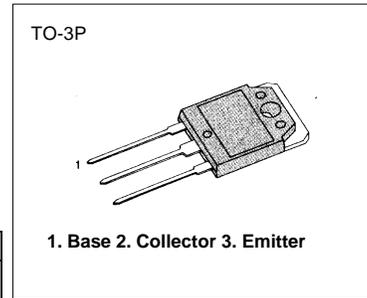


NPN EPITAXIAL TIP140/141/142 SILICON DARLINGTON TRANSISTOR

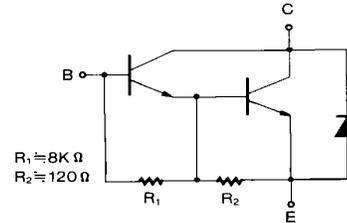
HIGH DC CURRENT GAIN
MIN $h_{FE} = 1000$ @ $V_{CE} = 4V$, $I_C = 5A$
**MONOLITHIC CONSTRUCTION WITH BUILT
 IN BASE-EMITTER SHUNT RESISTORS**
INDUSTRIAL USE

• Complement to TIP145/146/147



ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage	V_{CBO}	60	V
		80	V
		100	V
Collector Emitter Voltage	V_{CEO}	60	V
		80	V
		100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	10	A
Collector Current (Pulse)	I_C	15	A
Base Current (DC)	I_B	0.5	A
Collector Dissipation ($T_C=25^\circ C$)	P_C	125	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{STG}	- 65 ~ 150	$^\circ C$

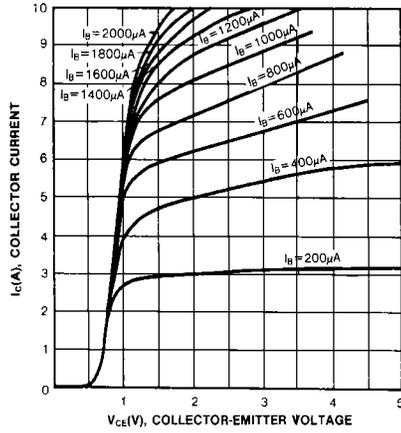


ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ C$)

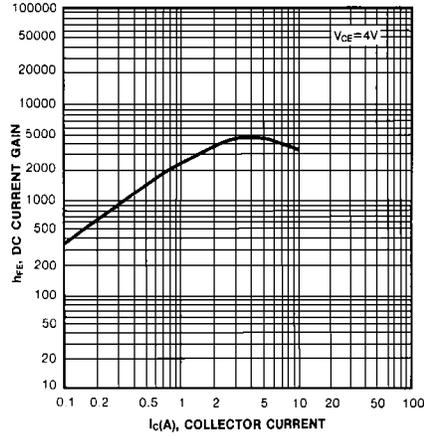
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 30mA, I_B = 0$	60			V
			80			V
			100			V
Collector Cutoff Current	I_{CEO}	$V_{CE} = 30V, I_B = 0$			2	mA
		$V_{CE} = 40V, I_B = 0$			2	mA
		$V_{CE} = 50V, I_B = 0$			2	mA
Collector Cutoff Current	I_{CBO}	$V_{CB} = 60V, I_E = 0$			1	mA
		$V_{CB} = 80V, I_E = 0$			1	mA
		$V_{CB} = 100V, I_E = 0$			1	mA
Emitter Cutoff Current	I_{EBO}	$V_{BE} = 5V, I_C = 0$			2	mA
DC Current Gain	h_{FE}	$V_{CE} = 4V, I_C = 5A$	1000			
		$V_{CE} = 4V, I_C = 10A$	500			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5A, I_B = 10mA$			2	V
		$I_C = 10A, I_B = 40mA$			3	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10A, I_B = 40mA$			3.5	V
Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 4V, I_C = 10A$			3	V
Delay Time	t_D	$V_{CC} = 30V, I_C = 5A$		0.15		μs
Rise Time	t_R	$I_B = 20mA, I_{B1} = -I_{B2}$		0.55		μs
Storage Time	t_{STG}			2.5		μs
Fall Time	t_F			2.5		μs

NPN EPITAXIAL TIP140/141/142 SILICON DARLINGTON TRANSISTOR

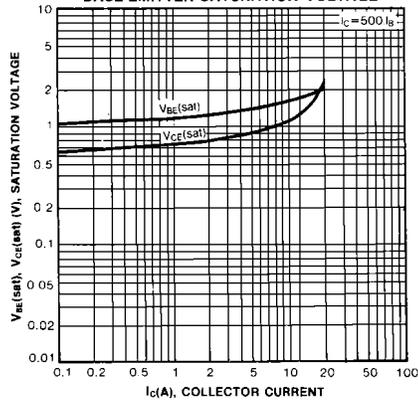
STATIC CHARACTERISTIC



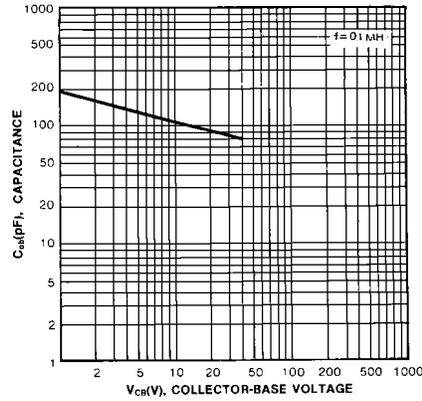
DC CURRENT GAIN



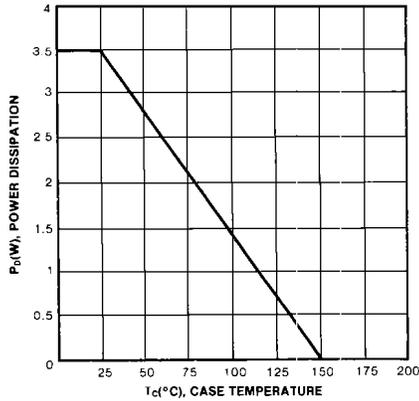
**COLLECTOR-EMITTER SATURATION VOLTAGE
BASE-EMITTER SATURATION VOLTAGE**



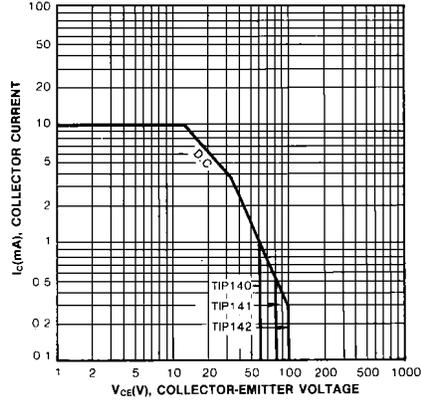
COLLECTOR OUTPUT CAPACITANCE



POWER DERATING



SAFE OPERATING AREA



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