

TIP145F/146F/147F

PNP EPITAXIAL DARLINGTON TRANSISTOR

HIGH DC CURRENT GAIN

MIN $h_{FE} = 1000$ @ $V_{CE} = -4V$, $I_C = -5A$

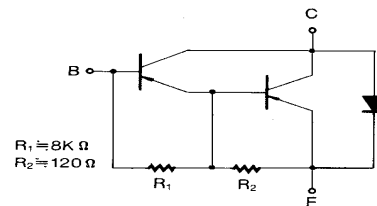
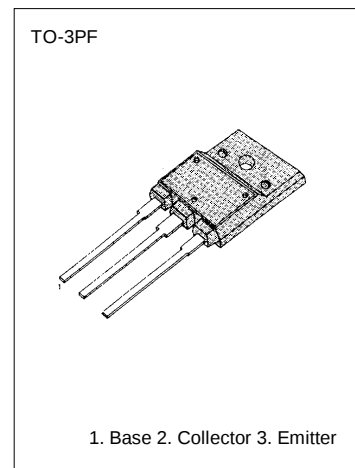
MONOLITHIC CONSTRUCTION WITH BUILT
IN BASE-EMITTER SHUNT RESISTORS

INDUSTRIAL USE

Complement to TIP140F/141F/142F

ABSOLUTE MAXIMUM RATINGS

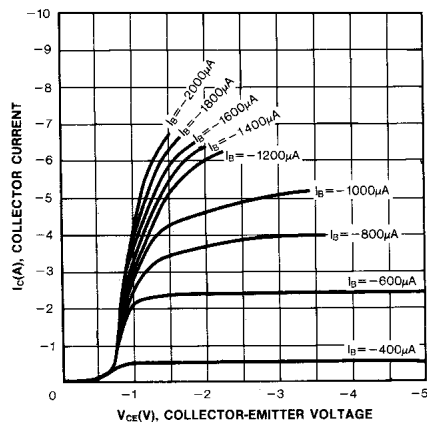
Characteristic	Symbol	Rating	Unit
Collector Emitter Voltage	V_{CBO}	- 60	V
: TIP145F		- 80	V
: TIP146F		- 100	V
: TIP147F			
Collector Emitter Voltage	V_{CEO}	- 60	V
: TIP145F		- 80	V
: TIP146F		- 100	V
: TIP147F			
Emitter-Base Voltage	V_{EBO}	- 5	V
Collector Current (DC)	I_C	- 10	A
Collector Current (Pulse)	I_C	- 15	A
Base Current (DC)	I_B	- 0.5	A
Collector Dissipation ($T_C=5^\circ C$)	P_C	60	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{STG}	- 65 ~ 150	$^\circ C$



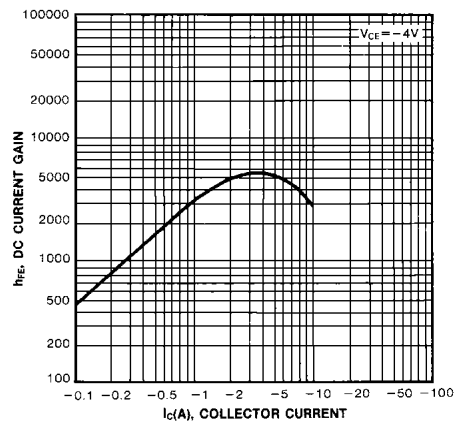
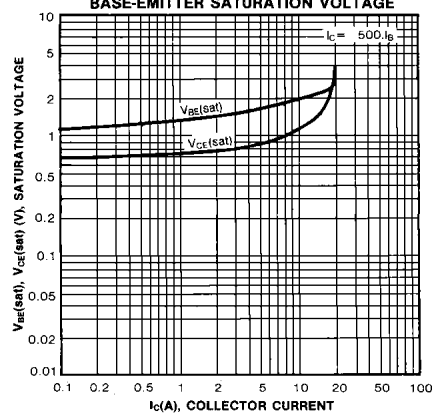
ELECTRICAL CHARACTERISTICS ($T_C=25^\circ C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = -30mA, I_B = 0$	- 60			V
: TIP145F			- 80			V
: TIP146F			- 100			V
: TIP147F						
Collector Cutoff Current	I_{CEO}	$V_{CE} = -30V, I_B = 0$			- 2	mA
: TIP145F		$V_{CE} = -40V, I_B = 0$			- 2	mA
: TIP146F		$V_{CE} = -50V, I_B = 0$			- 2	mA
: TIP147F						
Collector Cutoff Current	I_{CBO}	$V_{CB} = -60V, I_E = 0$			- 1	mA
: TIP145F		$V_{CB} = -80V, I_E = 0$			- 1	mA
: TIP146F		$V_{CB} = -100V, I_E = 0$			- 1	mA
: TIP147F						
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

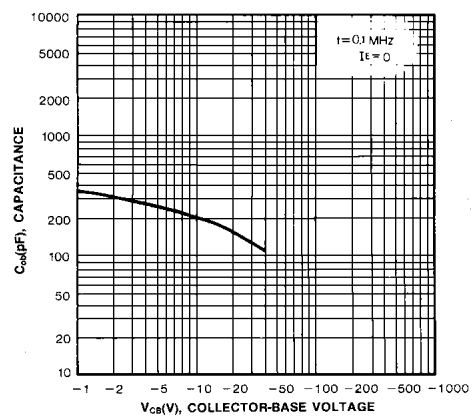
STATIC CHARACTERISTIC



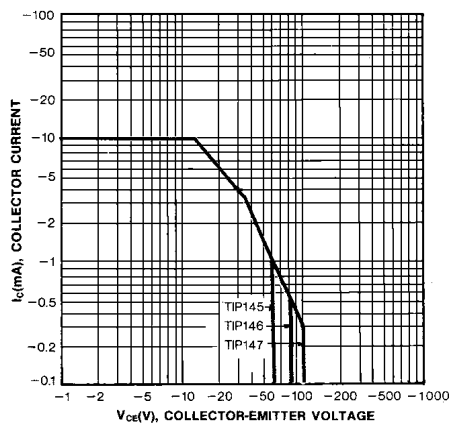
DC CURRENT GAIN

COLLECTOR-EMITTER SATURATION VOLTAGE
BASE-EMITTER SATURATION VOLTAGE

COLLECTOR OUTPUT CAPACITANCE



SAFE OPERATING AREA



POWER DERATING

