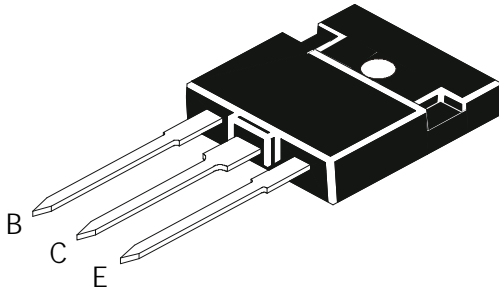


SILICON PLANAR DARLINGTON POWER TRANSISTORS

TIP140F, 141F, 142F NPN
TIP145F, 146F, 147F PNP



**TO- 3P Fully Isolated
Plastic Package**

For use in Power Linear and Switching Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	TIP140F TIP145F	TIP141F TIP146F	TIP142F TIP147F	UNIT
Collector-Base Voltage	V_{CBO}	60	80	100	V
Collector-Emitter Voltage	V_{CEO}	60	80	100	V
Emitter-Base Voltage	V_{EBO}	5.0			V
Collector Current	I_C	10			A
Collector Peak Current (repetitive)	I_{CM}	20			A
Base Current	I_B	0.5			A
Total Power Dissipation @ $T_c \leq 25^\circ\text{C}$	P_D	60			W
Operating And Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +150			$^\circ\text{C}$

THERMAL RESISTANCE

From Junction to case	$R_{th(j-c)}$	1.0	$^\circ\text{C/W}$
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ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cutoff Current	I_{CBO}	$V_{CB} = \text{Rated } V_{CBO}, I_E = 0$			1.0	mA
Collector Cutoff Current	I_{CEO}	$V_{CE} = 1/2 \text{ rated } V_{CEO}, I_B = 0$			2.0	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5.0 \text{ V}, I_C = 0$			2.0	mA
Collector-Emitter Sustaining Voltage	$*V_{CEO(sus)}$	$I_C = 30\text{mA}, I_B = 0$ TIP140F/145F TIP141F/146F TIP142F/147F	60 80 100			V V V
Collector-Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 10\text{mA}$ $I_C = 10\text{A}, I_B = 40\text{mA}$			2.0 3.0	V V
Base-Emitter On Voltage	$*V_{BE(on)}$	$I_C = 10\text{A}, V_{CE} = 4 \text{ V}$			3.0	V
DC Current Gain	$*h_{FE}$	$I_C = 5\text{A}, V_{CE} = 4\text{V}$ $I_C = 10\text{A}, V_{CE} = 4 \text{ V}$	1000 500			

SWITCHING TIME

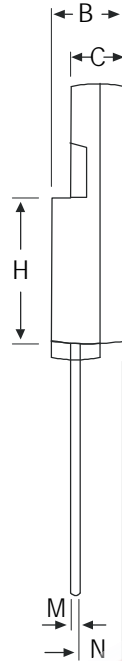
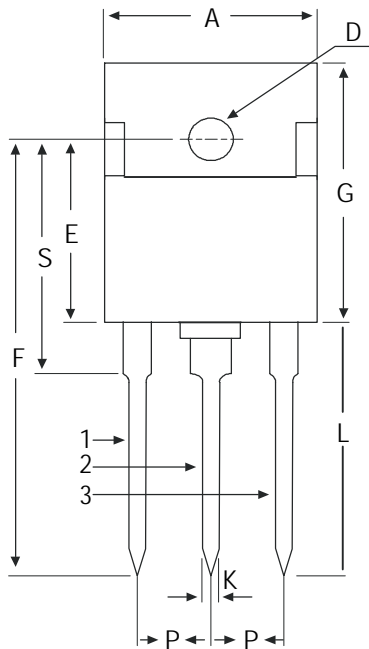
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Turn on time	t_{on}	$I_C = 10\text{A}, I_{B1} = 40\text{mA}, I_{B2} = -40\text{mA}, R_L = 3\Omega$		0.9		μs
Turn off time	t_{off}			4.0		μs

*Pulsed : Pulse duration=200ms, duty cycle=1.5%

TIP140F, 141F, 142F NPN
TIP145F, 146F, 147F PNP

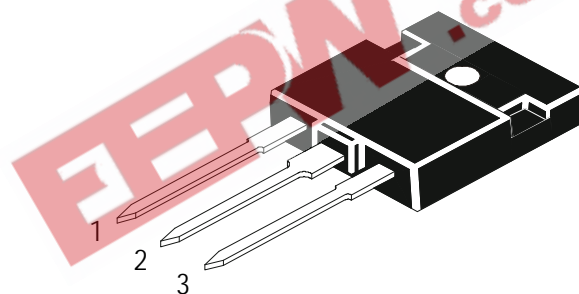
TO-3P Fully Isolated
Plastic Package

TO-3P (TO-218) Plastic Package



DIM	MIN	MAX
A	15.80	16.40
B	5.20	5.70
C	3.80	4.20
D	Ø 3.30	Ø 3.60
E	14.50	15.10
F	33.25	36.75
G	20.75	21.25
H	11.50	12.25
K	1.00	1.30
L	18.75	21.65
M	0.40	0.60
N	3.15	3.45
P	5.21	5.72
S	18.75	19.25

All dimensions in mm.



Pin Configuration

1. Base
2. Collector
3. Emitter

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-3P	100 pcs/polybag	628 gm/100 pcs	3" x 7.5" x 7.5"	0.3K	17" x 15" x 13.5"	4.8K	42 kgs