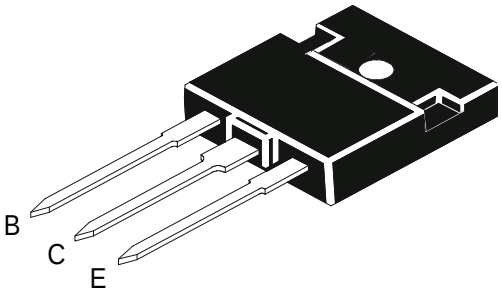
Continental Device India Limited

An ISO/TS16949 and ISO 9001 Certified Company

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_{EB0}	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 @ $T_c \leq 25^oC$	P_D	60			W
Operating And Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +150			^oC

THERMAL RESISTANCE

From Junction to case	$R_{th\ (j-c)}$	1.0	$^oC/W$

ELECTRICAL CHARACTERISTICS (T_c=25^{o}C unless specified otherwise)

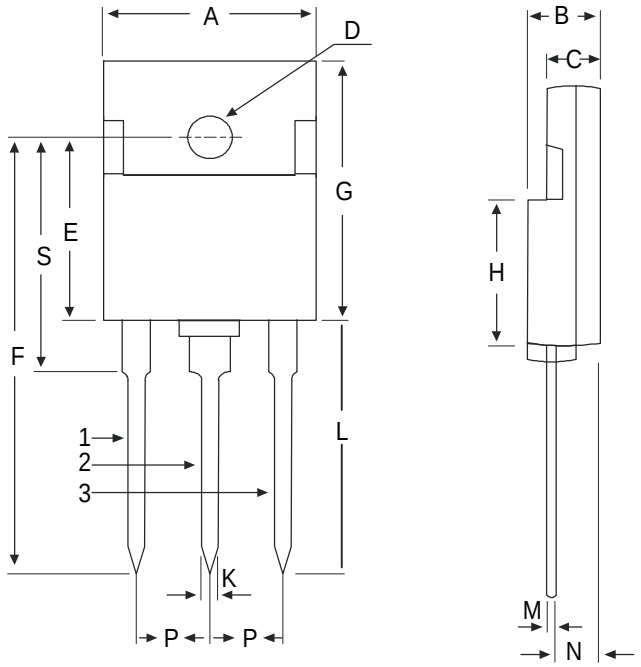
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cutoff Current	I_{CBO}	V_{CB} =Rated V_{CBO}, I_E=0			1.0	mA
Collector Cutoff Current	I_{CEO}	V_{CE} =1/2 rated V_{CEO}, I_B=0			2.0	mA
Emitter Cutoff Current	I_{EBO}	V_{EB} =5.0 V, I_C=0			2.0	mA
Collector-Emitter Sustaining Voltage	*$V_{CEO\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

SWITCHING TIME

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

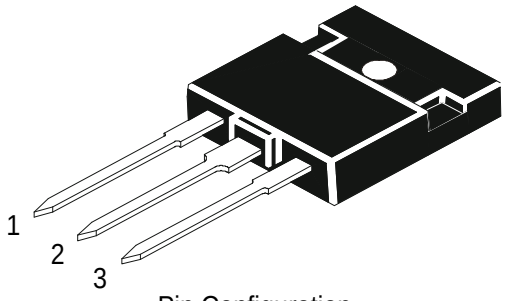
***Pulsed : Pulse duration=200ms, duty cycle=1.5%**

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 diminsions 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

TIP140F_147F Rev_1 050503E

Disclaimer

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