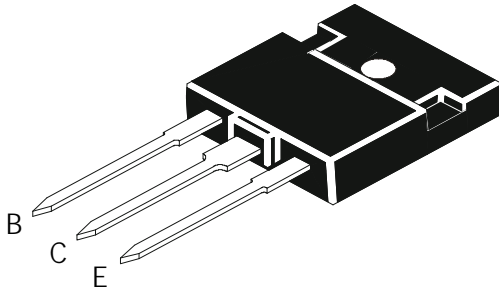


SILICON PLANAR DARLINGTON POWER TRANSISTORS

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

THERMAL RESISTANCE

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

ELECTRICAL CHARACTERISTICS ($T_c=25^\circ C$ 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

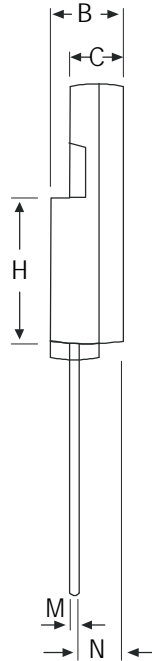
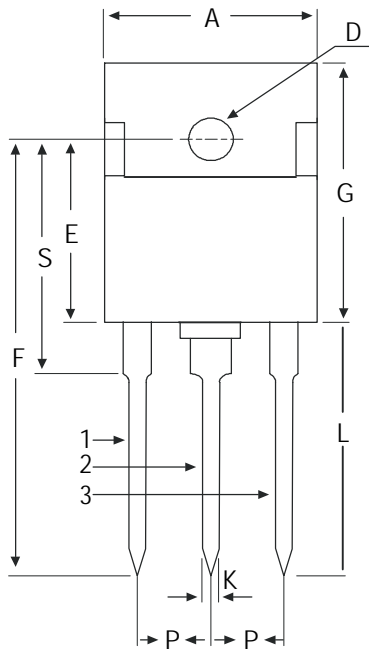
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Turn on time	t_{on}	$I_C = 10\text{A}, I_{B1} = 40\text{mA}, I_{B2} = -40\text{mA}, R_L = 3\Omega$		0.9		μs
Turn off time	t_{off}			4.0		μs

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

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

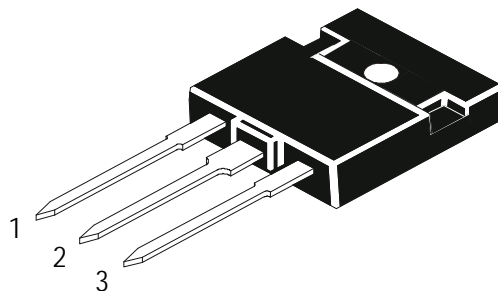
**TO- 3P Fully Isolated
Plastic Package**

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 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

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



CDIL is a registered Trademark of
Continental Device India Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119
email@cdil.com www.cdilsemi.com