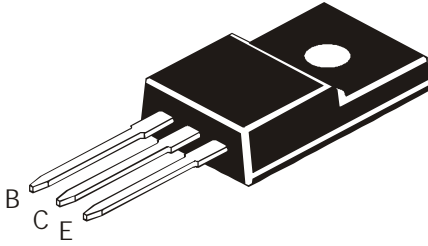


## NPN/PNP SILICON POWER DARLINGTON TRANSISTORS

TIP122F NPN  
TIP127F PNP  
TO-220FP



Designed for General-Purpose Amplifier and Low-Speed Switching Applications.

### ABSOLUTE MAXIMUM RATINGS(Ta=25deg C)

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector -Base Voltage	VCBO	100	V
Collector -Emitter Voltage	VCEO	100	V
Emitter Base Voltage	VEBO	5.0	V
Collector Current -Continuous	IC	5.0	A
Collector Current (Peak)	ICM	8.0	A
Base Current	IB	120	mA
Total Power Dissipation @ Tc=25 deg C	PD	65	W
Derate Above 25 deg C		0.52	W/deg C
Total Power Dissipation @ Ta=25 deg C	PD	2.0	W
Derate Above 25 deg C		0.016	W/deg C
Unclamped Inductive Load Energy (1)	E	50	mj
Junction Temperature	Tj	150	deg C
Storage Temperature Range	Tstg	-65 to +150	deg C
<b>THERMAL RESISTANCE</b>			
From Junction to Ambient	Rth(j-a)	62.5	deg C/W
From Junction to Case	Rth(j-c)	1.92	deg C/W

(1) IC=1A, L=100mH,P.R.F.=10Hz, VCC=20V, RBE=100 ohms

### ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Specified)

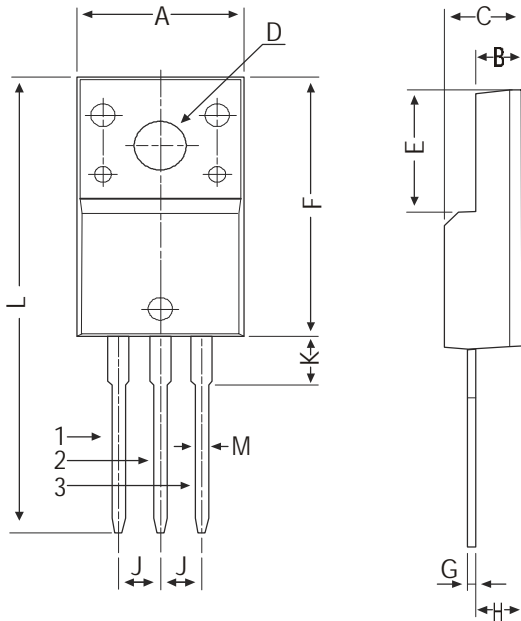
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter (sus) Voltage	VCEO (sus) *	IC=100mA, IB=0	100	-	V
Collector Cut off Current	ICBO	VCB=100V, IE=0	-	0.2	mA
		IB=0, VCE=50V	-	0.5	mA
Emitter Cut off Current	IEBO	VEB=5V, IC=0	-	2.0	mA
		IC=3A, IB=12mA	-	2.0	V
Collector Emitter Saturation Voltage	VCE(Sat)*	IC=5A, IB=20mA	-	4.0	V
		IC=3A, VCE=3V	-	2.5	V
Base Emitter on Voltage	VBE(on) *	IC=3A, VCE=3V	-	2.5	V
DC Current Gain	hFE*	IC=0.5A, VCE=3V	1.0	-	K
		IC=3A, VCE=3V	1.0	-	K

**ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Specified)****TIP122F/127F**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Small Signal Current Gain	/hfe/	IC=3A, VCE=4V f=1MHz	4.0	-	
Output Capacitance	Cob	Cob=10V, IE=0, f=0.1MHz			
			<b>PNP</b>	-	300
		<b>NPN</b>	-	200	pF

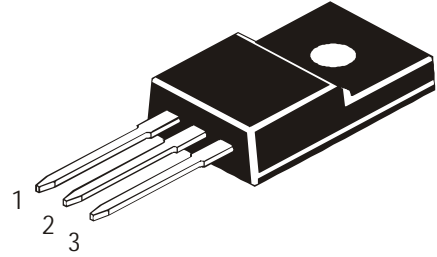
**\*Pulse test: Pulse Width=300 us; Duty Cycle=2%**

## TO-220FP Fully Isolated Plastic Package



DIM	MIN	MAX
A	9.80	10.36
B	2.50	3.00
C	4.30	4.90
D	3.10	3.40
E	6.50	8.20
F	14.80	17.27
G	0.40	0.70
H	2.50	2.96
J	2.34	2.74
K	—	4.70
L	—	30.05
M	0.6	0.90

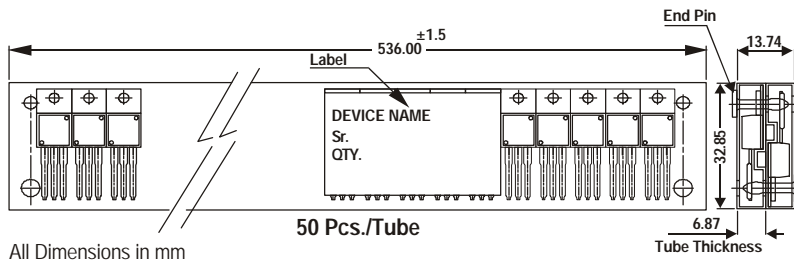
All dimensions in mm.



Pin Configuration

1. Base
2. Collector
3. Emitter

## TO-220 FP Tube Packing

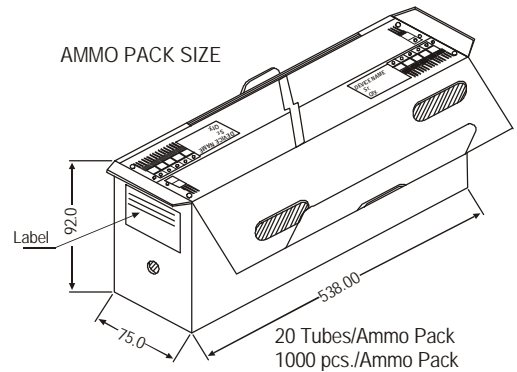


All Dimensions in mm

50 Pcs./Tube

Tube Thickness

AMMO PACK SIZE



20 Tubes/Ammo Pack  
1000 pcs./Ammo Pack

## Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-220FP	200 pcs/polybag	396 gm/200 pcs	3" x 7.5" x 7.5"	1K	17" x 15" x 13.5"	16K	36 kgs
	50 pcs/tube	135 gm/50 pcs	3.5" x 3.7" x 21.5"	1K	19" x 19" x 19"	10K	28 kgs

## Notes

### Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

### Disclaimer

The product information and the selection guides facilitate selection of the CDIL's 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 Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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