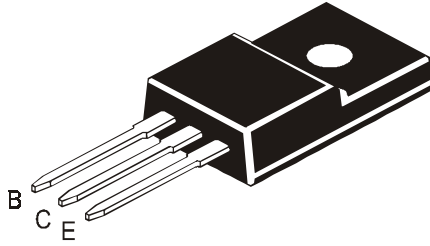


NPN SILICON PLANAR DARLINGTON POWER TRANSISTOR

CJF6388



TO-220FP Fully Isolated Plastic Package

Complementary CJF6668

General Purpose Darlington Amplifier and Switching Applications

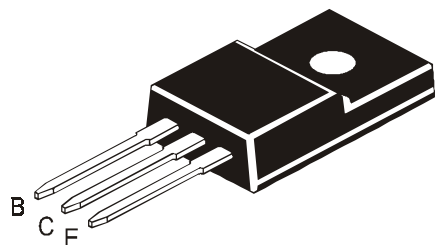
ABSOLUTE MAXIMUM RATINGS.

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Base Voltage	V_{CBO}	100	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	5	V
RMS Isolation Voltage (for 1sec,R.H.<30%, $T_A=25^{\circ}C$)	(1) V_{ISOL} (a)	3500	V_{RMS}
	(b)	1500	V_{RMS}
Collector Current - Continuous	I_C	10	A
		Peak (2)	15
Base Current	I_B	1	A
Total Power Dissipation @ $T_c=25^{\circ}C$	$P_{D^{**}}$	40	W
Derate Above $25^{\circ}C$		0.31	W/ $^{\circ}C$
Total Power Dissipation @ $T_a=25^{\circ}C$	P_D	2	W
Derate Above $25^{\circ}C$		0.016	W/ $^{\circ}C$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +150	$^{\circ}C$
THERMAL RESISTANCE			
From Junction to Case	$R_{th(j-c)^{**}}$	3.2	$^{\circ}C/W$
From Junction to Ambient	$R_{th(j-a)}$	62.5	$^{\circ}C/W$
Lead Temperature for Soldering Purpose	T_L	260	$^{\circ}C$

****Measurement made with thermocouple contacting the bottom insulated mounting surface (in a location beneath the die), the device mounted on a heatsink with thermal grease and a mounting torque of ≥ 6 in.lbs.**

(1) RMS Isolation Voltage : (a) 3500 V_{RMS} with Package in Clip Mounting Position (b) 1500 V_{RMS} with Package in Screw Mounting Position (for 1sec, R.H.<30% , $T_a=25^{\circ}C$; Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$)

(2) Pulse Test : Pulse Width =5ms, Duty Cycle $\leq 10\%$

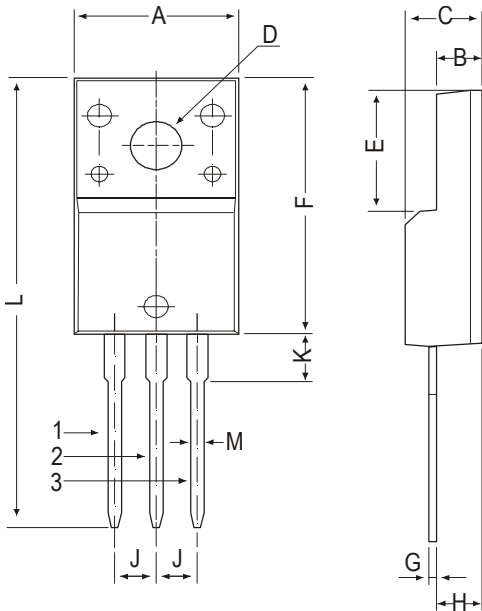
TO-220FP Fully Isolated
Plastic PackageELECTRICAL CHARACTERISTICS (T_c=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter sustaining Voltage	$V_{CEO(sus)}$ *	$I_C=30mA, I_B=0$	100		V
Collector Cut off Current	I_{CEO}	$V_{CE}=80V, I_B=0$		10	μA
	I_{CEX}	$V_{CE}=100V, V_{EB(off)}=1.5V$		10	μA
		$T_C=125^\circ C$			
		$V_{CE}=100V, V_{EB(off)}=1.5V$		3	mA
Emitter Cut off Current	I_{CBO}	$V_{CB}=100V, I_E=0$		10	μA
	I_{EBO}	$V_{EB}=5V, I_C=0$		2	mA
DC Current Gain	h_{FE} *	$I_C=3A, V_{CE}=4V$	3000	15000	
		$I_C=5A, V_{CE}=3V$	1000		
		$I_C=8A, V_{CE}=4V$	200		
		$I_C=10A, V_{CE}=3V$	100		
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$ *	$I_C=3A, I_B=6mA$		2	V
		$I_C=5A, I_B=0.01A$		2	V
		$I_C=8A, I_B=80mA$		2.5	V
		$I_C=10A, I_B=0.1A$		3	V
Base Emitter Saturation Voltage	$V_{BE(Sat)}$ *	$I_C=5A, I_B=0.01A$		2.8	V
		$I_C=10A, I_B=0.1A$		4.5	V
Base Emitter on Voltage	$V_{BE(on)}$ *	$I_C=8A, V_{CE}=4V$		2.5	V
<u>DYNAMIC CHARACTERISTICS</u>					
Small Signal Current Gain	h_{fe}	$I_C=1A, V_{CE}=5V, f=1MHz$	20		
Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		200	pF
Small Signal Current Gain	h_{fe}	$I_C=1A, V_{CE}=5V, f=1kHz$	1000		

* Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

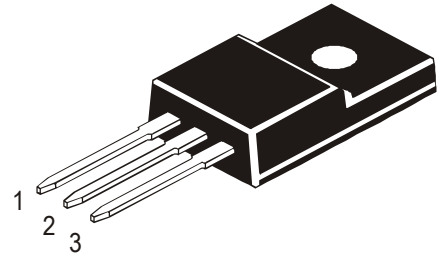
TO-220FP Fully Isolated Plastic Package

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DIM	MIN	MAX
A	9.96	10.36
B	2.60	3.00
C	4.50	4.90
D	3.10	3.30
E	7.90	8.20
F	16.87	17.27
G	0.45	0.50
H	2.56	2.96
J	2.34	2.74
K	—	3.08
L	—	30.05
M	—	0.80

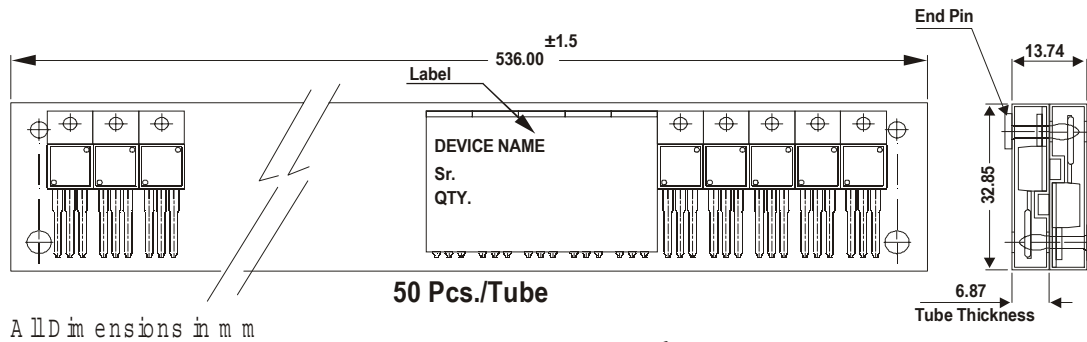
All dimensions in mm.



Pin Configuration

1. Base
2. Collector
3. Emitter

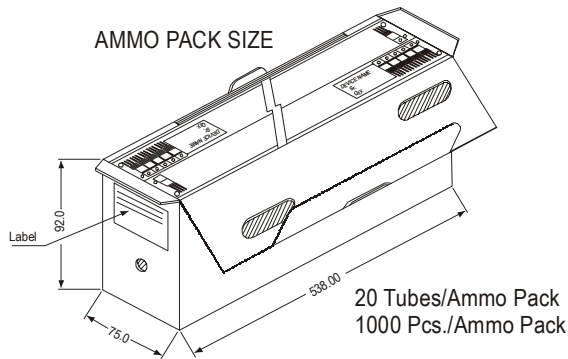
TO-220 FP Tube Packing



All dimensions in mm

50 Pcs./Tube

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

**TO-220FP Fully Isolated
Plastic Package****Disclaimer**

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