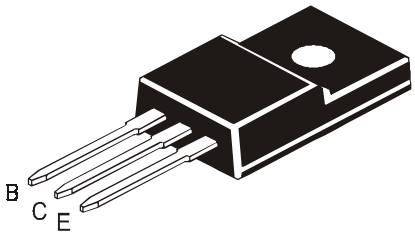
SILICON PLANAR POWER DARLINGTON TRANSISTORS

NPN PNP
CJF100 CJF105
CJF101 CJF106
CJF102 CJF107



TO-220FP Fully Isolated Plastic Package

Power Darlington for Linear and Switching Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	CJF100 CJF105	CJF101 CJF106	CJF102 CJF107	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
RMS Isolation Voltage (for 1sec, R.H. <30%, T_A=25ºC)	(1) V_{ISOL} (a) (b)	3500 1500			V_{RMS}
Collector Current - Continuous Peak	I_C I_{CM}	8.0 15			A
Base Current	I_B	1.0			A
Total Power Dissipation @ T_C=25ºC Derate Above 25ºC	P_{tot}	80 0.64			W W/ºC
Total Power Dissipation @ T_A=25ºC Derate Above 25ºC	P_{tot}	2.0 0.016			W W/ºC
Operating And Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +150			ºC

(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%Ta=25ºC; Pulse Test: Pulse Width </=300µs, Duty Cycle</=2%)

THERMAL RESISTANCE

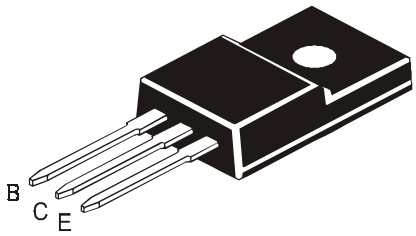
Characteristics	SYMBOL	MAX	UNIT
From Junction to Ambient	$R_{th(j-a)}$	62.5	ºC/W
From Junction to Case	$R_{th(j-c)}$	1.56	ºC/W

ELECTRICAL CHARACTERISTICS (T_C=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter Sustaining Voltage	$V_{CEO\ (sus)}$ *	I_C=30mA, I_B=0			
		CJF100/105	60	-	V
		CJF101/106	80	-	V
		CJF102/107	100	-	V
Collector Cut Off Current	I_{CEO}	V_{CE}= I/2 Rated V_{CEO}, I_B=0	-	50	µA
	I_{CBO}	V_{CB}= Rated V_{CBO}, I_E=0	-	50	µA
Emitter Cut Off Current	I_{EBO}	V_{EB}=5V, I_C=0	-	8.0	mA

SILICON PLANAR POWER DARLINGTON TRANSISTORS

NPN PNP
CJF100 CJF105
CJF101 CJF106
CJF102 CJF107



TO-220FP Fully Isolated Plastic Package

ELECTRICAL CHARACTERISTICS (T_C=25ºC unless specified otherwise)

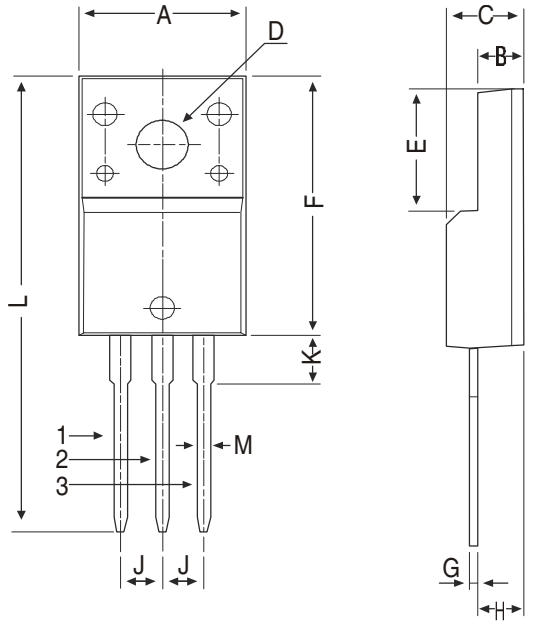
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter Saturation Voltages	$V_{CE\ (sat)}$ *	I_C=3A, I_B=6mA I_C=8A, I_B=80mA	- -	2.0 2.5	V
Base Emitter On Voltage	$V_{BE\ (on)}$ *	I_C=8A, V_{CE}=4V	-	2.8	V
DC Current Gain	h_{FE} *	I_C=3A, V_{CE}=4V I_C=8A, V_{CE}=4V	1000 200	20000 -	

DYNAMIC CHARACTERISTICS

Small Signal Current Gain	$\|h_{fe}\|$	I_C=3A, V_{CE}=4V,f=1MHz	4.0	-	
Output Capacitance	C_o	V_{CB}=10V, I_E=0, f=0.1MHz **PNP** **NPN**	 - -	 300 200	 pF
Forward Voltage of Commutation Diode	V_F*	I_F= - I_C=10A, I_B=0	-	6.0	V

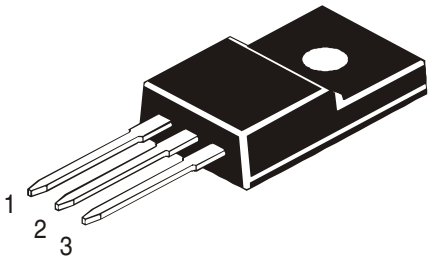
*** Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2 %**

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

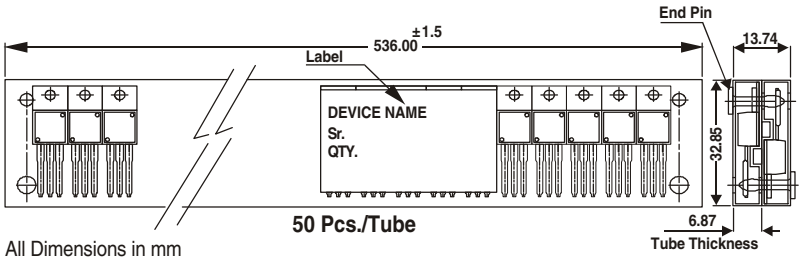
All diminsions in mm.



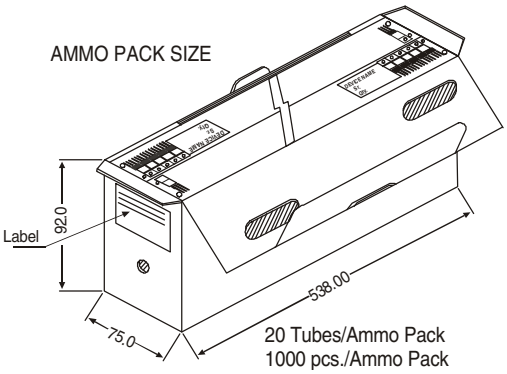
Pin Configuration

1. Base
2. Collector
3. Emitter

TO-220 FP Tube Packing



All Dimensions in mm



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

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

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, 4141 1112 Fax + 91-11-2579 5290, 4141 1119
email@cdil.com www.cdilsemi.com

CJF100_107Rev250901