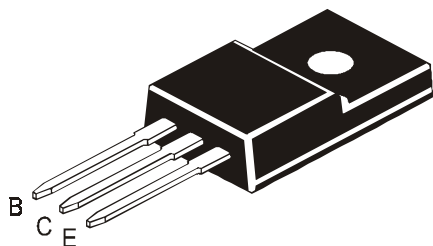


SILICON PLANAR POWER TRANSISTORS

CJF44H11 NPN

CJF45H11 PNP

TO-220FP Fully Isolated
Plastic Package



General Purpose Power Amplification and Switching such as Output or Driver Stages in Applications

ABSOLUTE MAXIMUM RATINGS.

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Emitter Voltage	V_{CEO}	80	V
Emitter Base Voltage	V_{EBO}	5	V
RMS Isolation Voltage (for 1sec,R.H. <30%, $T_A=25^\circ\text{C}$)	(1) V_{ISOL} (a)	3500	V_{RMS}
	(b)	1500	V_{RMS}
Collector Current -Continuous	I_C	10	A
- Peak		20	A
Total Power Dissipation @ $T_c=25^\circ\text{C}$	P_D	50	W
Derate Above 25°C		1.67	W/ $^\circ\text{C}$
Total Power Dissipation @ $T_a=25^\circ\text{C}$	P_D	2	W
Derate Above 25°C		0.016	W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 55 to +150	$^\circ\text{C}$

THERMAL RESISTANCE

From Junction to Ambient	$R_{th(j-a)}$	62.5	$^\circ\text{C/W}$
From Junction to Case	$R_{th(j-c)}$	3.5	$^\circ\text{C/W}$

(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% , $T_a=25^\circ\text{C}$; Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$)

ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless specified otherwise)

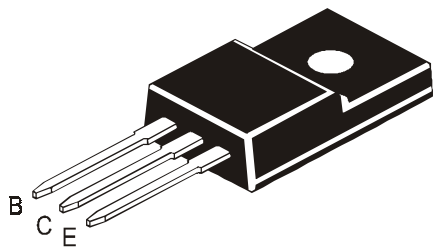
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter sustaining Voltage	$V_{CEO(sus)}$	$I_C=30\text{mA}, I_B=0$	80		V
Collector Cut off Current	I_{CES}	$V_{CE}=\text{Rated } V_{CEO}, V_{BE}=0$		1	μA
Emitter Cut off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$		10	μA
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	$I_C=8\text{A}, I_B=0.4\text{A}$		1.85	V
Base Emitter Saturation Voltage	$V_{BE(Sat)}$	$I_C=8\text{A}, I_B=0.8\text{A}$		1.5	V
DC Current Gain	h_{FE}	$I_C=2\text{A}, V_{CE}=1\text{V}$	60		
		$I_C=4\text{A}, V_{CE}=1\text{V}$	35		

SILICON PLANAR POWER TRANSISTORS

CJF44H11 NPN

CJF45H11 PNP

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



ELECTRICAL CHARACTERISTICS (Tc=25°C unless specified otherwise)

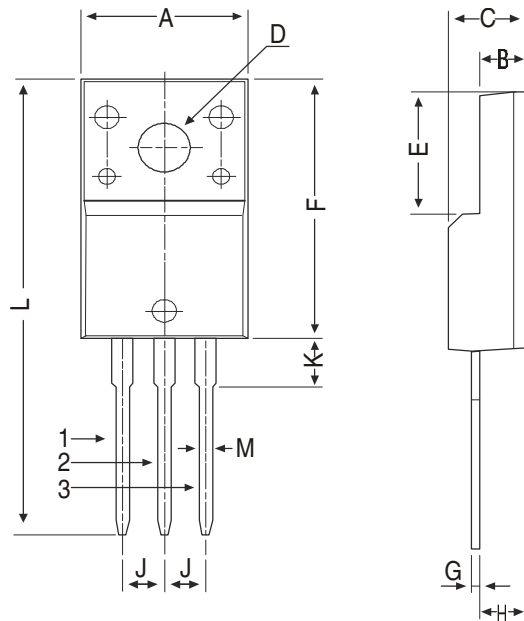
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
<u>DYNAMIC CHARACTERISTICS</u>					
Collector Capacitance	C_{Ob}	$V_{CB}=10V, f_{test}=1MHz$ CJF44H11 CJF45H11	Typ130 Typ230		pF
Current Gain - Bandwidth Product	f_T	$I_C=500mA, V_{CE}=10V,$ $f=20MHz$ CJF44H11 CJF45H11	Typ50 Typ40		MHz
<u>Switching Times</u>					
Delay and Rise Times	$t_d + t_r$	$I_C=5A, I_{B1}= 0.5A$ CJF44H11 CJF45H11	Typ300 Typ135		ns
Storage Time	t_s	$I_C=5A, I_{B1}= I_{B2}= 0.5A$ CJF44H11 CJF45H11	Typ500 Typ500		ns
Fall Time	t_f	$I_C=5A, I_{B1}= I_{B2}= 0.5A$ CJF44H11 CJF45H11	Typ140 Typ100		ns

CJF44H11 NPN

CJF45H11 PNP

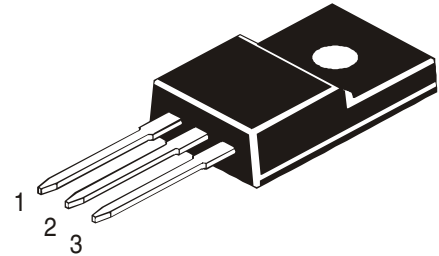
TO-220FP Fully Isolated Plastic Package

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

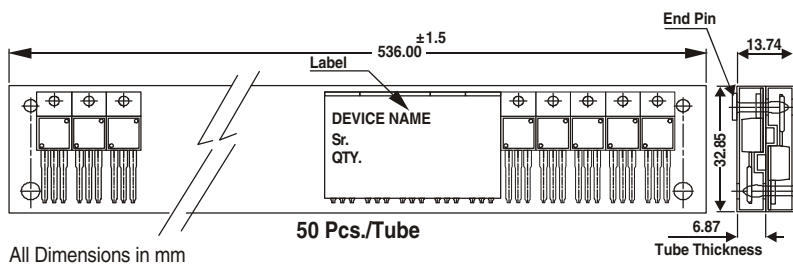
All dimensions in mm.



Pin Configuration

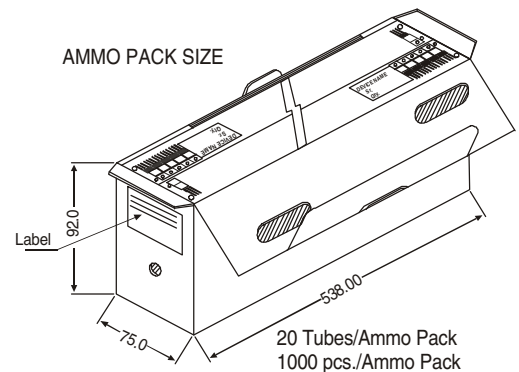
1. Base
2. Collector
3. Emitter

TO-220 FP Tube Packing



All Dimensions in mm

AMMO PACK SIZE



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

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 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, 4141 1112 Fax + 91-11-2579 5290, 4141 1119

email@cdil.com www.cdilsemi.com