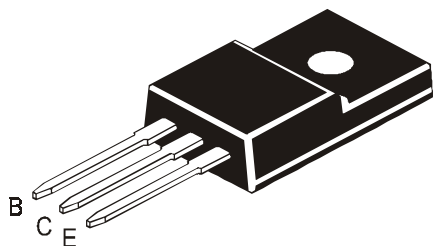


SILICON PLANAR POWER TRANSISTORS

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)

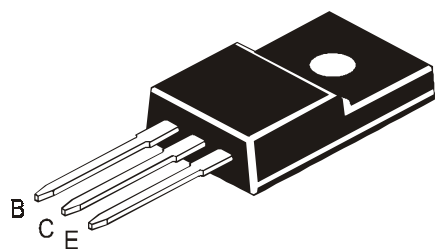
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter sustaining Voltage	$V_{CEO(sus)}$	$I_C=30\text{mA}, I_B=0$	80		V
Collector Cut off Current	I_{CES}	$V_{CE}=\text{Rated } V_{CEO}, V_{BE}=0$		1	μA
Emitter Cut off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$		10	μA
Collector Emitter Saturation 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**



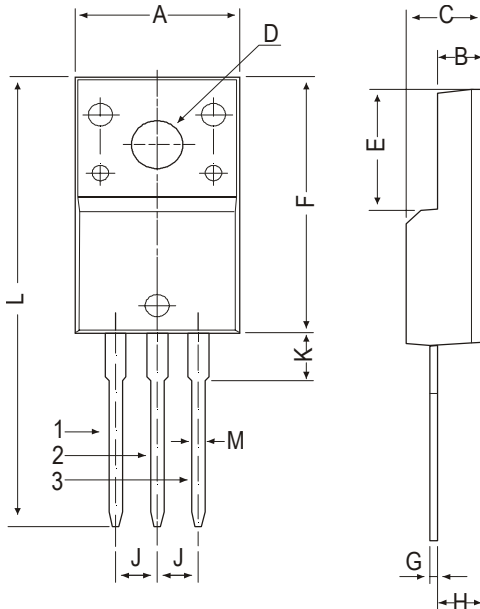
ELECTRICAL CHARACTERISTICS (Tc=25°C unless specified otherwise)

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

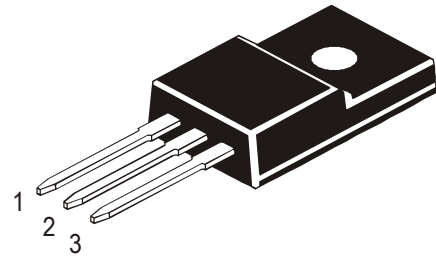
TO-220FP Fully Isolated Plastic Package

TO-220FP Fully Isolated Plastic Package



DIM	MIN	MAX
A	9.96	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

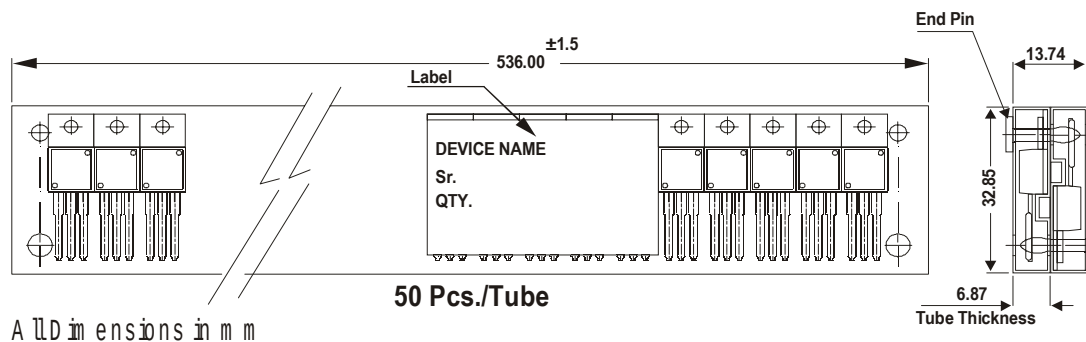
All dimensions in mm.



Pin Configuration

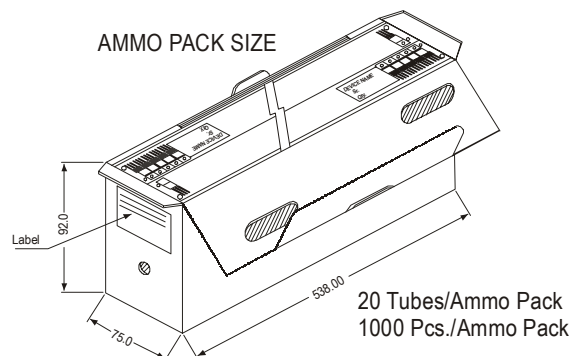
1. Base
2. Collector
3. Emitter

TO-220 FP Tube Packing



All dimensions in mm

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

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