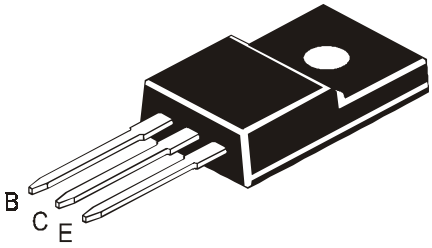
SILICON PLANAR POWER TRANSISTORS

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.	(1) V_{ISOL} (a)	3500	V_{RMS}
<30%, T_A=25ºC)	(b)	1500	V_{RMS}
Collector Current -Continuous	I_C	10	A
- Peak		20	A
Total Power Dissipation @ Tc=25ºC	P_D	50	W
Derate Above 25ºC		1.67	W/ºC
Total Power Dissipation @ Ta=25ºC	P_D	2	W
Derate Above 25ºC		0.016	W/ºC
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 55 to +150	ºC
THERMAL RESISTANCE			
From Junction to Ambient	$R_{th\ (j-a)}$	62.5	ºC/W
From Junction to Case	$R_{th\ (j-c)}$	3.5	ºC/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% ,Ta=25ºC; Pulse Test: Pulse Width ≤300µs, Duty Cycle≤2%)

ELECTRICAL CHARACTERISTICS (Tc=25ºC unless specified otherwise)

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

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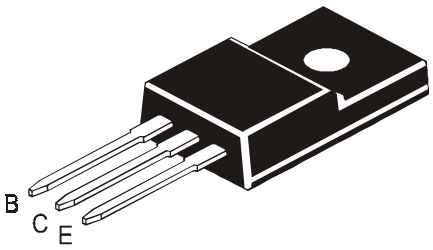
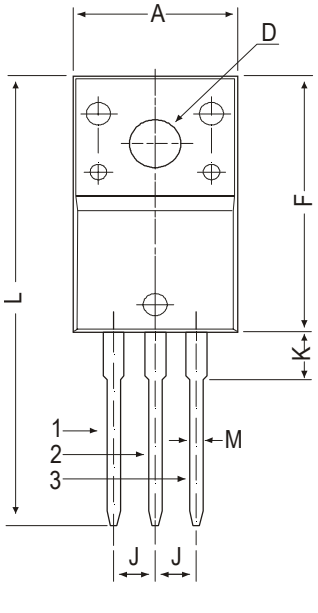


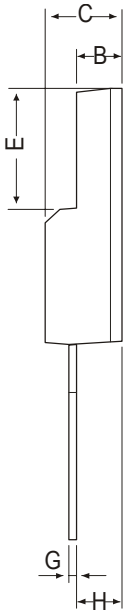
TO-220FP Fully Isolated Plastic Package

ELECTRICAL CHARACTERISTICS (Tc=25ºC unless specified otherwise)

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

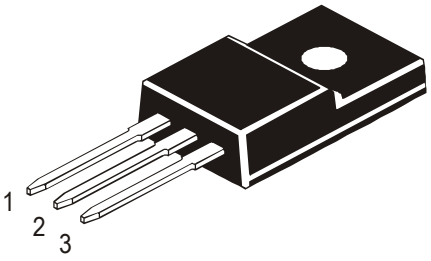
TO-220FP Fully Isolated Plastic Package





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

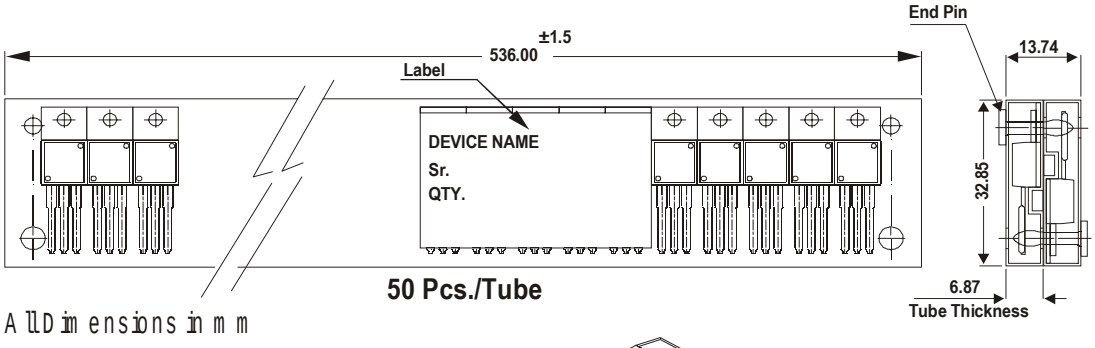
All diminsions in mm.



Pin Configuration

1. Base
2. Collector
3. Emitter

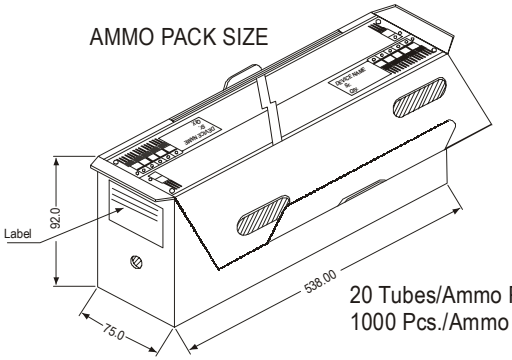
TO-220 FP Tube Packing



50 Pcs./Tube

All Dimensions in mm

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 50 pcs/tube	396 gm/200 pcs 135 gm/50 pcs	3" x 7.5" x 7.5" 3.5" x 3.7" x 21.5"	1K 1K	17" x 15" x 13.5" 19" x 19" x 19"	16K 10K	36 kgs 28 kgs

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