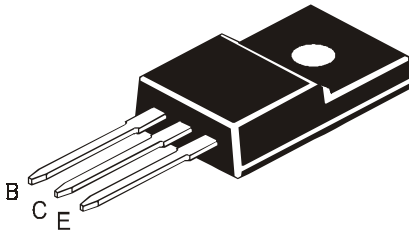


## SILICON PLANAR POWER DARLINGTON TRANSISTORS



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%, $T_A=25^\circ\text{C}$ )	(1) $V_{ISOL}$ (a) (b)	3500 1500			$V_{RMS}$
Collector Current - Continuous	$I_C$	8.0			A
Peak	$I_{CM}$	15			A
Base Current	$I_B$	1.0			A
Total Power Dissipation @ $T_C=25^\circ\text{C}$	$P_{tot}$	80			W
Derate Above $25^\circ\text{C}$		0.64			W/ $^\circ\text{C}$
Total Power Dissipation @ $T_A=25^\circ\text{C}$	$P_{tot}$	2.0			W
Derate Above $25^\circ\text{C}$		0.016			W/ $^\circ\text{C}$
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$	- 65 to +150			$^\circ\text{C}$

(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  $\leq 2\%$ )

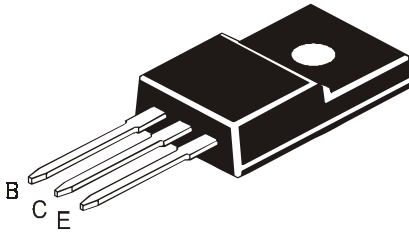
#### THERMAL RESISTANCE

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

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}$ *	$I_C=30\text{mA}, I_B=0$ <b>CJF100/105</b> <b>CJF101/106</b> <b>CJF102/107</b>	60 80 100	- - -	V V V
Collector Cut Off Current	$I_{CEO}$	$V_{CE}= 1/2 \text{ Rated } V_{CEO}, I_B=0$	-	50	$\mu\text{A}$
	$I_{CBO}$	$V_{CB}= \text{Rated } V_{CBO}, I_E=0$	-	50	$\mu\text{A}$
Emitter Cut Off Current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$	-	8.0	mA

# SILICON PLANAR POWER DARLINGTON TRANSISTORS



<b>NPN</b>	<b>PNP</b>
<b>CJF100</b>	<b>CJF105</b>
<b>CJF101</b>	<b>CJF106</b>
<b>CJF102</b>	<b>CJF107</b>

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

## ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C unless specified otherwise)

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

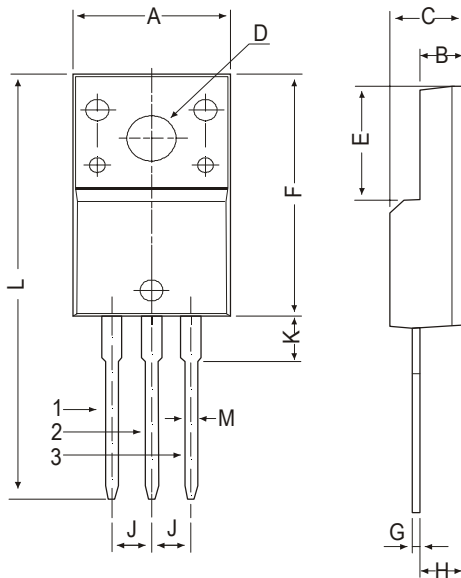
## DYNAMIC CHARACTERISTICS

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

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

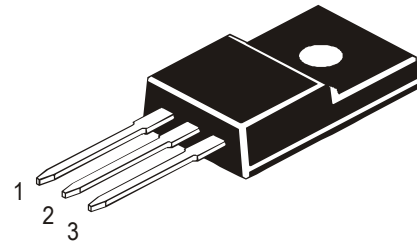
NPN	PNP
CJF100	CJF105
CJF101	CJF106
CJF102	CJF107

## 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

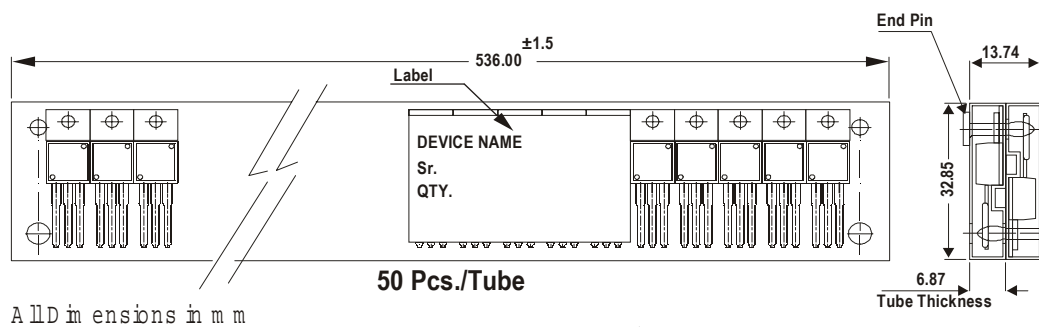
All dimensions in mm.



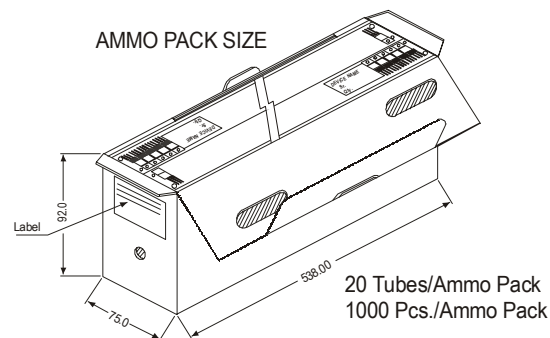
### Pin Configuration

1. Base
2. Collector
3. Emitter

## TO-220 FP Tube Packing



### 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

### Disclaimer

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