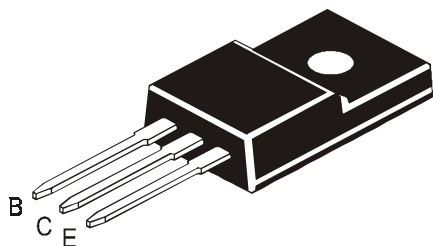


## PNP SILICON PLANAR POWER TRANSISTOR

CJF6107



TO-220FP Fully Isolated  
Plastic Package

General Purpose Amplifier and Switching Applications.

### ABSOLUTE MAXIMUM RATINGS.

| DESCRIPTION                                                               | SYMBOL             | VALUE        | UNIT                  |
|---------------------------------------------------------------------------|--------------------|--------------|-----------------------|
| Collector Base Voltage                                                    | $V_{CBO}$          | 80           | V                     |
| Collector Emitter Voltage                                                 | $V_{CEO}$          | 70           | V                     |
| Emitter Base Voltage                                                      | $V_{EBO}$          | 5            | V                     |
| RMS Isolation Voltage ( for 1sec,R.H.<br><30%, $T_A=25^{\circ}\text{C}$ ) | (1) $V_{ISOL}$ (a) | 3500         | $V_{RMS}$             |
|                                                                           | (b)                | 1500         | $V_{RMS}$             |
| Collector Current - Continuous                                            | $I_C$              | 7            | A                     |
| Peak                                                                      |                    | 10           | A                     |
| Base Current                                                              | $I_B$              | 3            | A                     |
| Total Power Dissipation @ $T_c=25^{\circ}\text{C}$                        | $P_{D^{**}}$       | 34           | W                     |
| Derate Above $25^{\circ}\text{C}$                                         |                    | 0.27         | W/ $^{\circ}\text{C}$ |
| Total Power Dissipation @ $T_a=25^{\circ}\text{C}$                        | $P_D$              | 2            | W                     |
| Derate Above $25^{\circ}\text{C}$                                         |                    | 0.016        | W/ $^{\circ}\text{C}$ |
| Operating and Storage Junction<br>Temperature Range                       | $T_j, T_{stg}$     | - 65 to +150 | $^{\circ}\text{C}$    |

### THERMAL RESISTANCE

|                                        |                    |      |                      |
|----------------------------------------|--------------------|------|----------------------|
| From Junction to Case                  | $R_{th(j-c)^{**}}$ | 3.7  | $^{\circ}\text{C/W}$ |
| From Junction to Ambient               | $R_{th(j-a)}$      | 62.5 | $^{\circ}\text{C/W}$ |
| Lead Temperature for Soldering Purpose | $T_L$              | 260  | $^{\circ}\text{C}$   |

**\*\*Measurement made with thermocouple contacting the bottom insulated mounting surface (in a location beneath the die), the device mounted on a heatsink with thermal grease and a mounting torque of  $\geq 6$  in.lbs.**

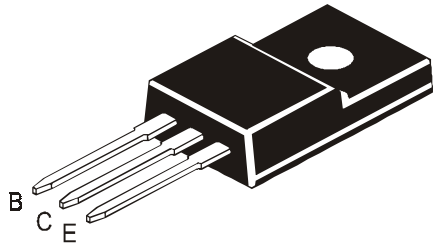
**(1) RMS Isolation Voltage : (a) 3500  $V_{RMS}$  with Package in Clip Mounting Position (b) 1500  $V_{RMS}$  with Package in Screw Mounting Position (for 1sec, R.H.<30% , $T_a=25^{\circ}\text{C}$ ; Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ )**

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

| DESCRIPTION                          | SYMBOL           | TEST CONDITION                                      | MIN | MAX | UNIT          |
|--------------------------------------|------------------|-----------------------------------------------------|-----|-----|---------------|
| Collector Emitter sustaining Voltage | $V_{CEO(sus)}^*$ | $I_C=100\text{mA}, I_B=0$                           | 70  |     | V             |
| Collector Cut off Current            | $I_{CES}$        | $V_{CE}=80\text{V}, I_B=0$                          |     | 1   | $\mu\text{A}$ |
|                                      | $I_{CEX}$        | $V_{CE}=80\text{V}, V_{EB}(\text{off})=1.5\text{V}$ |     | 1   | $\mu\text{A}$ |
| Emitter Cut off Current              | $I_{EBO}$        | $V_{EB}=5\text{V}, I_C=0$                           |     | 1   | $\mu\text{A}$ |

## PNP SILICON PLANAR POWER TRANSISTOR

CJF6107

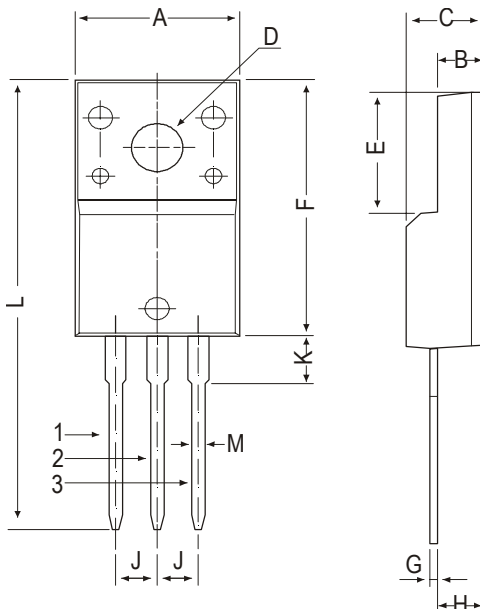
TO-220FP Fully Isolated  
Plastic PackageELECTRICAL CHARACTERISTICS ( $T_c=25^{\circ}\text{C}$  unless specified otherwise)

| DESCRIPTION                          | SYMBOL          | TEST CONDITION                 | MIN | MAX | UNIT |
|--------------------------------------|-----------------|--------------------------------|-----|-----|------|
| Collector Emitter Saturation Voltage | $V_{CE(Sat)}^*$ | $I_C=7A, I_B=3A$               |     | 2   | V    |
| Base Emitter on Voltage              | $V_{BE(on)}^*$  | $I_C=7A, V_{CE}=4V$            |     | 2   | V    |
| DC Current Gain                      | $h_{FE}^*$      | $I_C=2A, V_{CE}=4V$            | 30  | 90  |      |
|                                      |                 | $I_C=7A, V_{CE}=4V$            | 5   |     |      |
| DYNAMIC CHARACTERISTICS              |                 |                                |     |     |      |
| Small Signal Current Gain            | $h_{fe}$        | $I_C=0.5A, V_{CE}=4V, f=50kHz$ | 20  |     |      |
| Output Capacitance                   | $C_{ob}$        | $V_{CB}=10V, I_E=0, f=1MHz$    |     | 250 | pF   |
| Current Gain - Bandwidth Product     | $f_{T(2)}$      | $I_C=500mA, V_{CE}=4V, f=1MHz$ | 4   |     | MHz  |

\* Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ (2)  $f_T=h_{fe}I.f_T$  Test

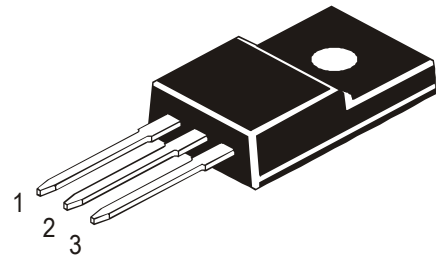
## TO-220FP Fully Isolated Plastic Package

### 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  |

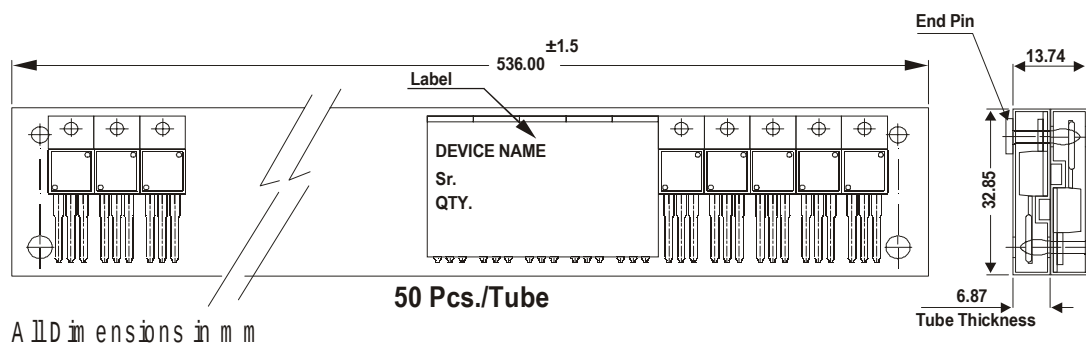
All dimensions in mm.



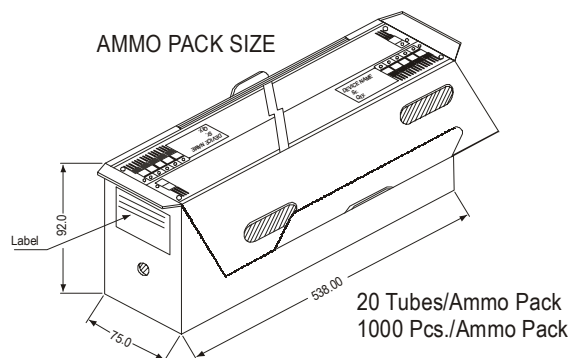
#### Pin Configuration

1. Base
2. Collector
3. Emitter

### TO-220 FP Tube Packing



#### 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 |

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

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