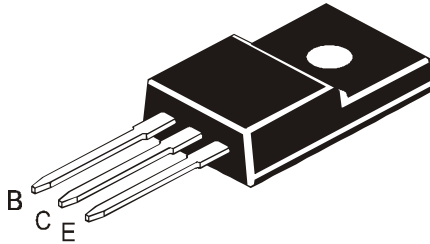


## NPN SILICON PLANAR POWER TRANSISTOR

CFC3852



TO-220FP Fully Isolated Plastic Package

Driver for Motor, Series Regulator and General Purpose

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Base Voltage	$V_{CBO}$	80	V
Collector Emitter Voltage	$V_{CEO}$	60	V
Emitter Base Voltage	$V_{EBO}$	6	V
RMS Isolation Voltage (for 1sec, R.H. <30%, $T_a = 25^\circ\text{C}$ )	* $V_{ISOL}$ (a)	3500	$V_{RMS}$
	(b)	1500	$V_{RMS}$
Collector Current	$I_C$	3	A
Base Current	$I_B$	1	A
Collector Power Dissipation at $T_c=25^\circ\text{C}$	$P_C$	25	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to +150	$^\circ\text{C}$

\* 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  $\leq 300\text{ms}$ , Duty Cycle  $\leq 2\%$ )

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

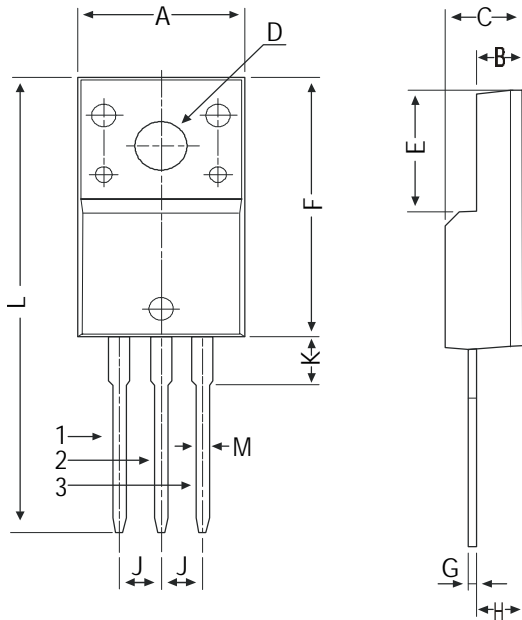
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cut Off Current	$I_{CBO}$	$V_{CB}=80\text{V}, I_E=0$			10	$\mu\text{A}$
Emitter Cut Off Current	$I_{EBO}$	$V_{EB}=6\text{V}, I_C=0$			100	$\mu\text{A}$
Collector Emitter Voltage	$V_{CEO}$	$I_C=25\text{mA}, I_B=0$	60			V
DC Current Gain	$h_{FE}$	$V_{CE}=4\text{V}, I_C=0.5\text{A}$	500			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2\text{A}, I_B=50\text{mA}$			0.5	V
Transition Frequency	$f_T$	$V_{CE}=12\text{V}, I_C=0.2\text{A}$		15		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, f=1\text{MHz}$		50		pF

### Switching Time

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Turn On Time	$t_{on}$	$V_{CC}=20\text{V}, R_L=20\Omega, I_C=1\text{A}, V_{BB1}=10\text{V}, V_{BB2}= -5\text{V}, I_{B1}=15\text{mA}, I_{B2}= -30\text{mA}$		0.8		$\mu\text{s}$
Storage Time	$t_{stg}$			3.0		$\mu\text{s}$
Fall Time	$t_f$				1.2	$\mu\text{s}$

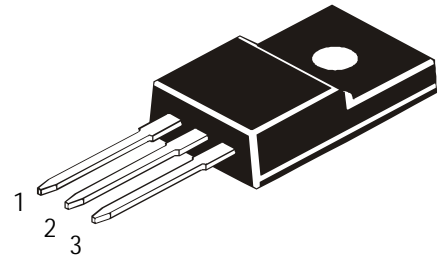
CFC3852Rev020805E

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

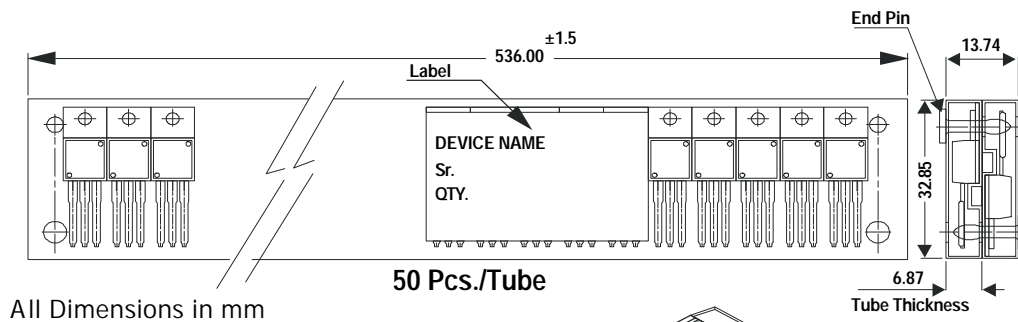
All diminsions in mm.



Pin Configuration

- 1. Base
- 2. Collector
- 3. Emitter

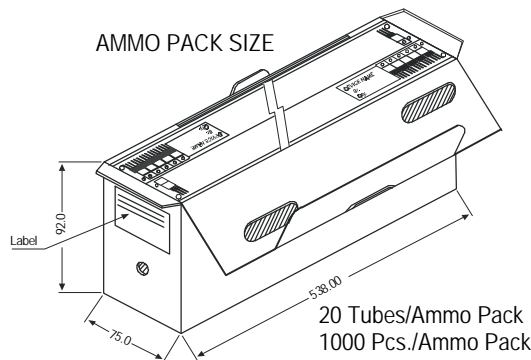
TO-220 FP Tube Packing



All Dimensions in mm

50 Pcs./Tube

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	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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