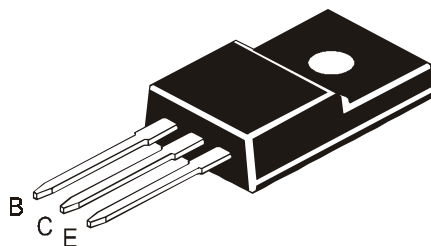


SILICON PLANAR POWER TRANSISTORS



NPN

CJF31

CJF31A

CJF31B

CJF31C

PNP

CJF32

CJF32A

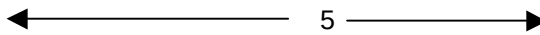
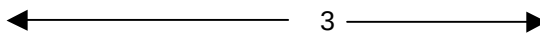
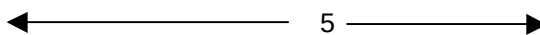
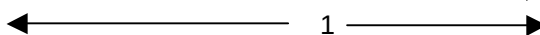
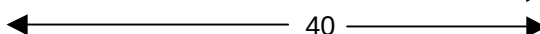
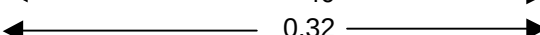
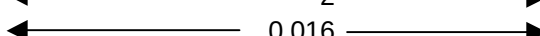
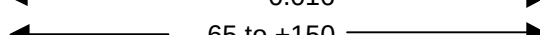
CJF32B

CJF32C

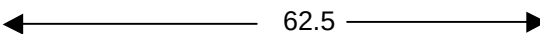
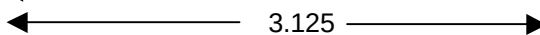
**TO-220FP Fully Isolated
Plastic Package**

Designed for use in General Purpose Amplifier and Switching Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	CJF31 CJF32	CJF31A CJF32A	CJF31B CJF32B	CJF31C CJF32C	UNIT
Collector Base Voltage	V_{CBO}	40	60	80	100	V
Collector Emitter Voltage	V_{CEO}	40	60	80	100	V
Emitter Base Voltage	V_{EBO}					V
Collector Current - Continuous Peak	I_C					A
						A
Base Current	I_B					A
Total Power Dissipation @ $T_c=25^\circ\text{C}$	P_D					W
Derate Above 25°C						W/ $^\circ\text{C}$
Total Power Dissipation @ $T_a=25^\circ\text{C}$	P_D					W
Derate Above 25°C						W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_{j,Tstg}$					$^\circ\text{C}$

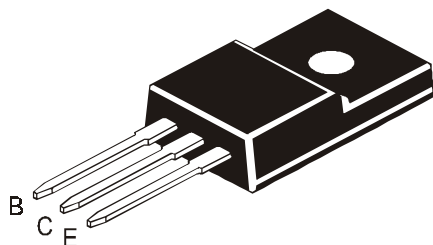
THERMAL RESISTANCE

From Junction to Ambient	$R_{th(j-a)}$					$^\circ\text{C/W}$
From Junction to Case	$R_{th(j-c)}$					$^\circ\text{C/W}$

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter (sus) Voltage	$V_{CEO(sus)}$ *	$I_C=30\text{mA}, I_B=0$			
		CJF31, CJF32	40	-	V
		CJF31A, CJF32A	60	-	V
		CJF31B, CJF32B	80	-	V
		CJF31C, CJF32C	100	-	V
Collector Cut off Current	I_{CEO}	CJF31/31A, CJF32/32A $V_{CE}=30\text{V}, I_B=0$	-	0.3	mA
		CJF31B/31C, CJF32B/32C $V_{CE}=60\text{V}, I_B=0$	-	0.3	mA
Collector Cut off Current	I_{CES}	$V_{CE}=\text{Rated } V_{CES}, V_{EB}=0$	-	200	μA
Emitter Cut off Current	I_{EBO}	$V_{BE}=5\text{V}, I_C=0$	-	1.0	mA

SILICON PLANAR POWER TRANSISTORS



NPN

CJF31

CJF31A

CJF31B

CJF31C

PNP

CJF32

CJF32A

CJF32B

CJF32C

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

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
DC Current Gain	h_{FE}^*	$I_C=1.0\text{A}$, $V_{CE}=4\text{V}$	25	-	
		$I_C=3.0\text{A}$, $V_{CE}=4\text{V}$	10	50	
Collector Emitter Saturation Voltage	$V_{CE(sat)}^*$	$I_C=3\text{A}$, $I_B=375\text{mA}$	-	1.2	V
Base Emitter on Voltage	$V_{BE(on)}^*$	$I_C=3.0\text{A}$, $V_{CE}=4\text{V}$	-	1.8	V

DYNAMIC CHARACTERISTICS

Current Gain - Bandwidth Product **	f_T	$I_C=500\text{mA}$, $V_{CE}=10\text{V}$ $f_{test}=1\text{MHz}$	3.0	-	MHz
Small Signal Current Gain	$ h_{fe} $	$I_C=0.5\text{A}$, $V_{CE}=10\text{V}$ $f=1\text{kHz}$	20	-	

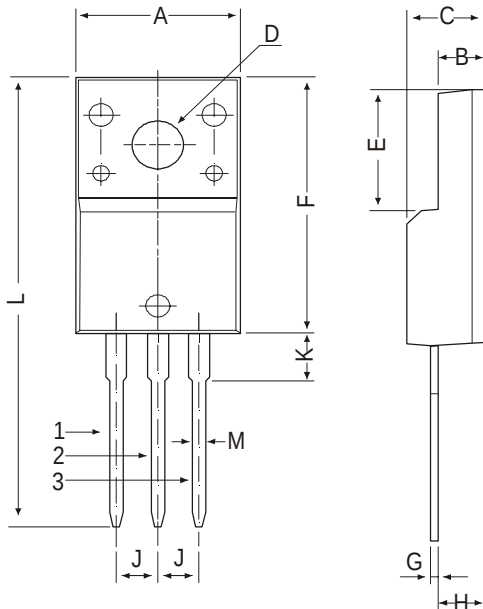
* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

** $f_T = |h_{fe}| f_{test}$

NPN	PNP
CJF31	CJF32
CJF31A	CJF32A
CJF31B	CJF32B
CJF31C	CJF32C

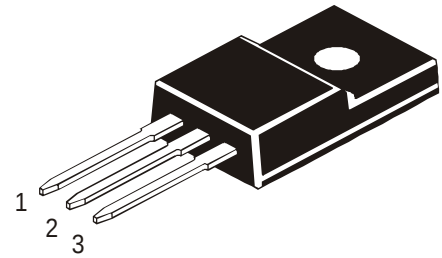
TO-220FP Fully Isolated Plastic Package

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

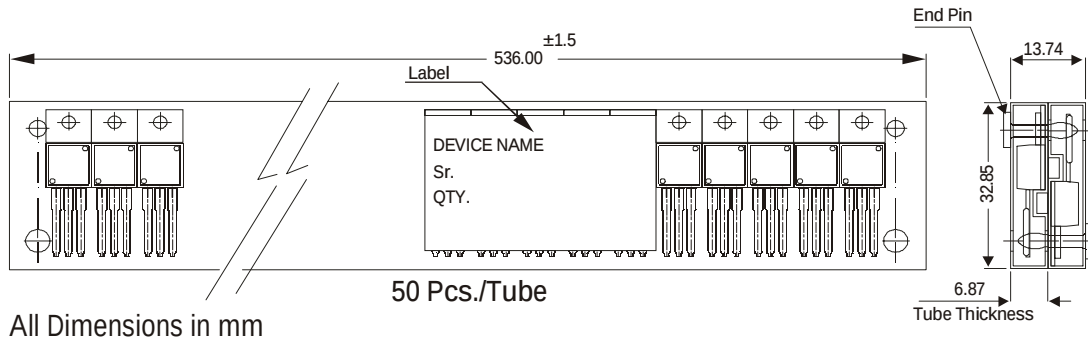
All dimensions in mm.



Pin Configuration

1. Base
2. Collector
3. Emitter

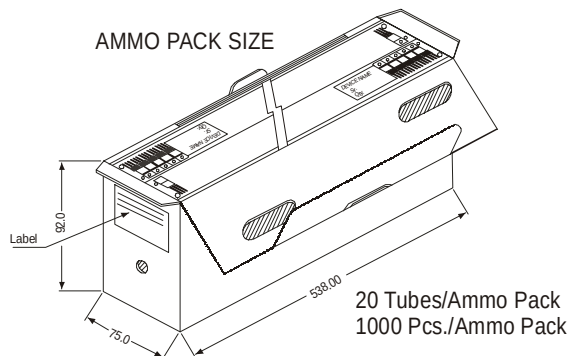
TO-220 FP Tube Packing



All Dimensions in mm

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

NPN	PNP
CJF31	CJF32
CJF31A	CJF32A
CJF31B	CJF32B
CJF31C	CJF32C

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

Disclaimer

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