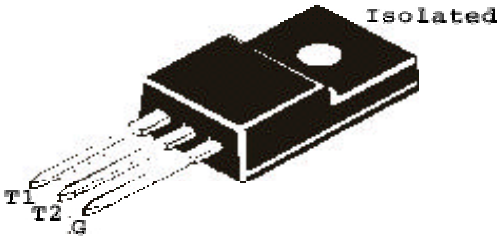
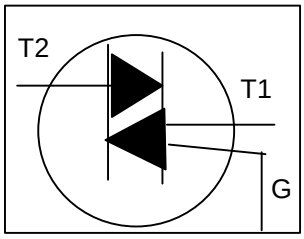
TRIAC **BT136X**

TO-220FP Fully Isolated Plastic Package





For use in high bidirectional transient and blocking voltage applications, and for high thermal cycling performance. Typical Applications include Motor Control, Industrial and Domestic Lighting, Heating and Static Switching.

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	TEST CONDITION	VALUE	UNIT
Repetitive Peak Off State Voltage	*V_{DRM}		600	V
RMS on State Current	$I_{T\ (RMS)}$	Full sine wave, $T_{mb} \leq 92^oC$	4.0	A
Non Repetitive Peak on State Current	I_{TSM}	Full sine wave, T_J=25ºC prior to Surge		
		t=20ms	25	A
		t=16.7ms	27	A
I^2t for Fusing	I^2t	t=10ms	3.1	A^2s
Repetitive Rate of Rise of On State Current after Triggering	dI_T/dt	I_{TM}=6A, I_G=0.2A, dI_G/dt=0.2A/µs		
		T2+ G+	50	A/µs
		T2+ G-	50	A/µs
		T2- G-	50	A/µs
		T2- G+	10	A/µs
Peak Gate Current	I_{GM}		2.0	A
Peak Gate Voltage	V_{GM}		5.0	V
Peak Gate Power	P_{GM}		5.0	W
Average Gate Power	$P_{G\ (AV)}$	Over any 20ms period	0.5	W
Storage Temperature	T_{stg}		- 40 to +150	ºC
Operating Junction Temperature	T_j		125	ºC

THERMAL RESISTANCE

Junction to Heatsink	$R_{th\ (j-hs)}$	full or half cycle with heatsink compound	5.5 max	K/W
		full or half cycle without heatsink compound	7.2 max	K/W
Junction to Ambient	$R_{th\ (j-a)}$	in free air	55 typ	K/W

ELECTRICAL CHARACTERISTICS (T_J=25ºC unless specified otherwise)

PARAMETER	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Gate Trigger Current	I_{GT}	V_D=12V, I_T=0.1A			
		T2+ G+		35	mA
		T2+ G-		35	mA
		T2- G-		35	mA
		T2- G+		70	mA

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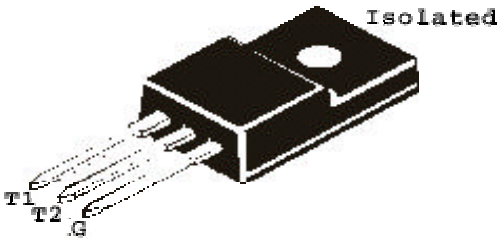

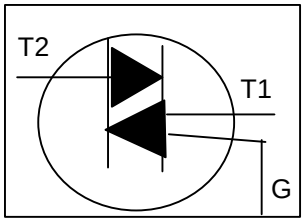

ELECTRICAL CHARACTERISTICS (T_J=25ºC unless specified otherwise)

PARAMETER	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Latching Current	I_L	V_D=12V, I_{GT}=0.1A			
		T2+ G+		20	mA
		T2+ G-		30	mA
		T2- G-		20	mA
		T2- G+		30	mA
Holding Current	I_H	V_D=12V, I_{GT}=0.1A		15	mA
On State Voltage	V_T	I_T=5A		1.7	V
Gate Trigger Voltage	V_{GT}	V_D=12V, I_T=0.1A		1.5	V
		V_D=400V, I_T=0.1A,T_J=125ºC	0.25		V
Off State Leakage Current	I_D	V_D=max, V_{DRM}=max, T_J=125ºC		0.5	mA

DYNAMIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Critical Rate of Rise of Off State Voltage	dV_D/dt	V_{DM}=67% V_{DRM}=max, T_J=125ºC, exponential waveform, gate open circuit	100			V/µs
Critical Rate of Change of Commutating Voltage	dV_{com}/dt	V_{DM}=400V, T_J=95ºC, $I_{T(RMS)}$=4A, dI_{com}/dt=1.8A/ms, gate open circuit		50		V/µs
Gate Controlled turn On time	t_{gt}	I_{TM}=6A, V_D=V_{DRM} max, I_G=0.1A, dI_G/dt=5A/µs		2.0		µs

ISOLATION LIMITING VALUE and CHARACTERISTIC

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
R.M.S Isolation Voltage from all three terminals to external heatsink	V_{ISOL}	f=50-60 Hz; sinusoidal waveform; R.H. ≤ 65%; clean and dustfree			2500	V
Capacitance from T2 to external heatsink	C_{ISOL}	f=1MHz		10		pF

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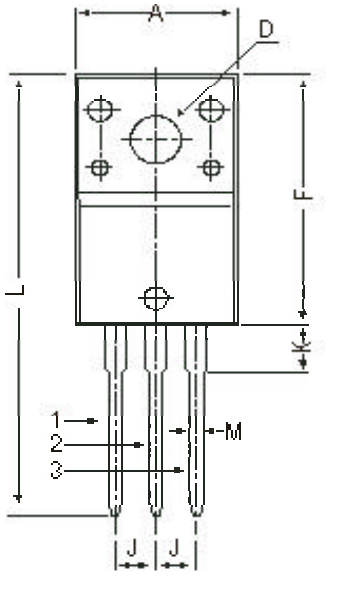
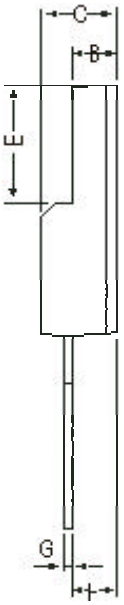
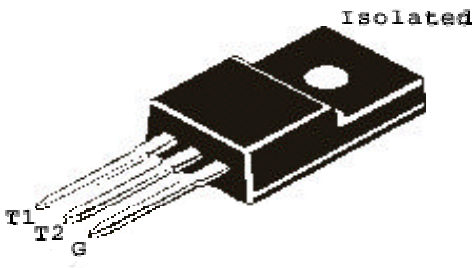


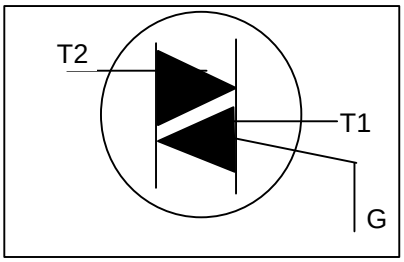


DIM	MIN	MAX
A	9.96	10.36
B	2.60	3.00
C	4.50	4.90
D	3.10	3.30
E	7.90	8.20
F	16.37	17.27
G	0.45	0.50
H	2.56	2.96
J	2.34	2.74
K	—	3.08
L	—	30.05
M	—	0.80

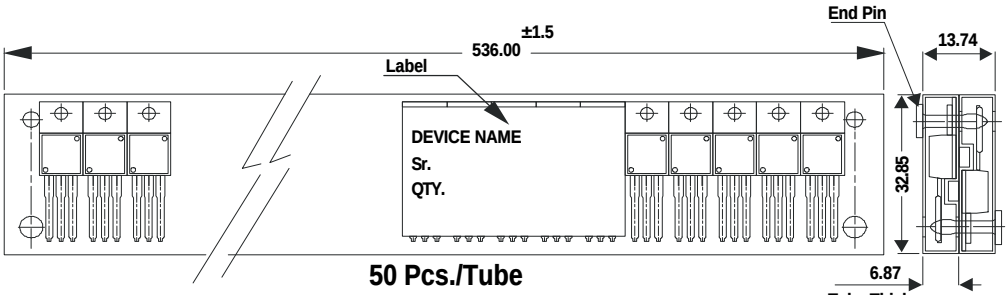
All diminsions in mm.



Pin Configuration
1. Main Terminal 1
2. Main Terminal 2
3. Gate
Case Isolated



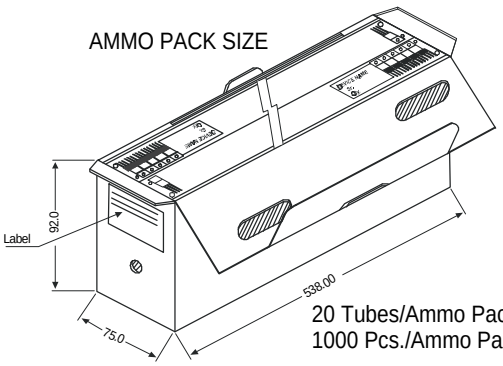
TO-220FP Tube Packing



50 Pcs./Tube

All Dimensions in mm

AMMO PACK SIZE



20 Tubes/Ammo Pack
1000 Pcs./Ammo Pack

Packing Details

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"	1.0K	17" x 15" x 13.5"	16.0 K	36 kgs
	50 pcs/tube	120 gm/50 pcs	3.5" x 3.7" x 21.5"	1.0K	19" x 19" x 19"	10.0 K	29 kgs

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