



## 5A Bipolar TRIAC Series

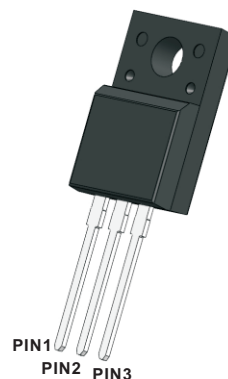
### Description

This model is designed for AC power control, providing reliable and uniform switching for full cycle AC applications.

### Mechanical data

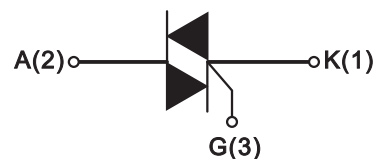
- Case: TO-220F-3L
- Approx. Weight: 1.767g ( 0.062oz)
- Lead free finish, RoHS compliant
- Case Material: “Green” molding compound, UL flammability classification 94V-0, “Halogen-free”.

TO-220F-3L(Suffix:F)



RoHS  
COMPLIANT

Application Circuit



### ■ Absolute Maximum Ratings (Operating temperature range applies unless otherwise specified)

Parameter	Symbols	Ratings	Unit
Repetitive peak off-state voltage	V <sub>DRM</sub>	600	V
Repetitive peak reverse voltage	V <sub>RRM</sub>	600	V
Non repetitive surge peak Off-state voltage	V <sub>DSM</sub>	V <sub>DRM</sub> +100	V
Non repetitive peak reverse voltage	V <sub>RSM</sub>	V <sub>DSM</sub> +100	V
RMS on-state current	I <sub>T(RMS)</sub>	5	A
Non repetitive surge peak on-state current (full cycle, f=50Hz)	I <sub>TSM</sub>	50	A
I <sup>2</sup> t value for fusing (tp=10ms)	I <sup>2</sup> T	12.5	A <sup>2</sup> S
Peak gate current (f≥50Hz, duty cycle≤10%)	I <sub>GM</sub>	2.0	A
Peak gate power (f≥50Hz, duty cycle≤10%)	P <sub>GM</sub>	5	W
Average gate power dissipation(T <sub>j</sub> =125°C)	P <sub>G(AV)</sub>	0.5	W
Operating junction temperature range	T <sub>J</sub>	-40 to +125	°C
Storage junction temperature range	T <sub>STG</sub>	-40 to +150	°C



■ Electrical Characteristics (T<sub>J</sub>=25°C Unless Otherwise Specified)

Characteristics	Symbols	Test Conditions	Min	Typ	Max	Unit
Gate Trigger Voltage	V <sub>GT</sub>	V <sub>D</sub> =12V, R <sub>L</sub> =20Ω, T <sub>J</sub> =25°C Quadrant I: T2+, G+ Quadrant I: T2+, G+ Quadrant III: T2-, G-			1.5	V
Gate Trigger Current	I <sub>GT</sub>				20	mA
Gate Non-trigger Voltage	V <sub>GD</sub>	V <sub>D</sub> =V <sub>DRM</sub> ×0.5, R <sub>L</sub> =4kΩ, T <sub>J</sub> =125°C	0.2			V
Critical Rising Rate of Off-State Voltage during Commutation	(dV/dt) <sub>c</sub>	T <sub>J</sub> =125°C, V <sub>D</sub> =400V, (di/dt) <sub>c</sub> =-2.5 A/ms, I <sub>TP</sub> =2A	5			V/us

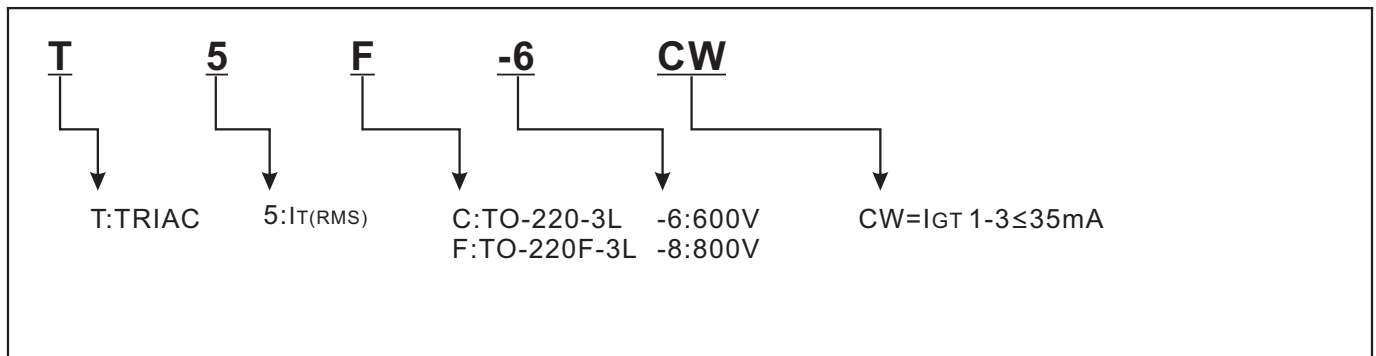
■ Static Characteristics

Symbols	Parameter	Value(Max)	Unit
V <sub>TM</sub>	I <sub>TM</sub> =7A t <sub>p</sub> =380μs T <sub>J</sub> =25°C	1.5	V
I <sub>DRM</sub>	V <sub>D</sub> =V <sub>DRM</sub> V <sub>R</sub> =V <sub>R</sub> RRM T <sub>J</sub> =25°C	200	uA
I <sub>RRM</sub>		T <sub>J</sub> =125°C	2.0

■ Thermal Resistances

Symbols	Parameter	Value(Max)	Unit
R <sub>th(j-c)</sub>	junction to case TO-220F-3L	4.0	°C/W

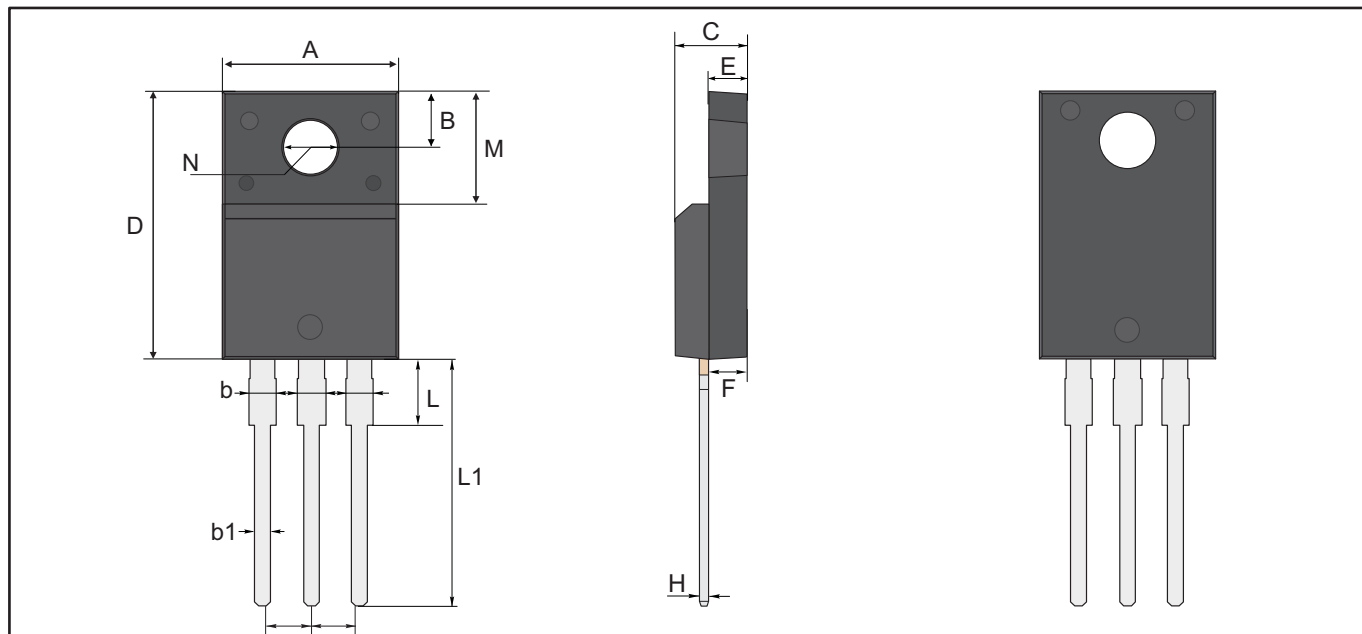
■ Ordering Information





Package Outline  
Through Hole Package ; 3 leads

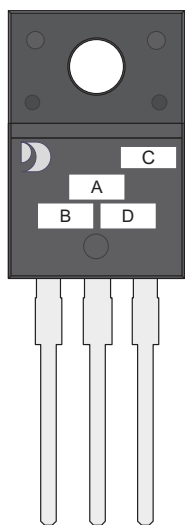
TO-220F-3L



TO-220F-3L Mechanical data

UNIT		A	B	b	b1	C	D	E	F	G	H	L	L1	M	N
mm	max	10.28	3.37	1.44	0.9	4.9	16.07	2.74	2.74	2.64	0.6	2.85	13.7	6.98	3.18 typ.
	typ	10.18	3.27	1.34	0.8	4.7	15.87	2.54	2.54	2.54	0.5	2.65	13.5	6.68	
	min	10.08	3.17	1.24	0.7	4.5	15.67	2.34	2.34	2.44	0.4	2.45	13.3	6.38	
mil	max	405	133	57	35	193	633	108	108	104	24	112	539	275	125 typ.
	typ	401	129	53	31	185	625	100	100	100	20	104	531	263	
	min	397	125	49	28	177	617	92	92	96	16	96	524	251	

### Marking Diagram



- Unmarkable Surfacea
- Marking Composition Field
- a: Ejector Pin Mark
- A: Marking Area
- B: Lot Code
- C: Additional Information
- D: Date Code (YWW)
- Y: Years(0~9)
- WW: Week



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