

## 3-1 Thyristors

### Thyristors

Part Number	Absolute Maximum Ratings												I <sub>RRM</sub> I <sub>DRM</sub> (mA) max	Conditions T <sub>j</sub> (°C)
	V <sub>RSM</sub> V <sub>DSM</sub> (V)	V <sub>RRM</sub> V <sub>DRM</sub> (V)	I <sub>T</sub> (AV) (A)	Conditions T <sub>c</sub> (°C)	I <sub>T</sub> (RMS) (50Hz) (A)	I <sub>TSM</sub> 50Hz Single Half Sine Wave, Default T <sub>j</sub> =125°C (A)	P <sub>GM</sub> (W)	P <sub>G</sub> (AV) (W)	V <sub>RGM</sub> (V)	I <sub>FGM</sub> (A)	T <sub>j</sub> (°C)	T <sub>stg</sub> (°C)		
TF541S-A	500	400	5.0	88	7.8	80	5.0	0.5	5.0	2.0	-40 to +125	2.0	125	
SLA0201	650	600	5 × 4		7.8	80	5.0	0.5	5.0	2.0	-40 to +125	2.0	125	
TF561S-A	700	600	5.0	88	7.8	80	5.0	0.5	5.0	2.0	-40 to +125	2.0	125	
TFA37S	-	700	3.0	127	4.7	60	5.0	0.5	5.0	2.0	-40 to +150	2.0	150	
TFA57S	-	700	5.0	115	7.8	80	5.0	0.5	5.0	2.0	-40 to +150	2.0	150	
TFA87S	-	700	8.0	98	12.6	120	5.0	0.5	5.0	2.0	-40 to +150	2.0	150	
TFA107S	-	700	10	86	15.7	160	5.0	0.5	5.0	2.0	-40 to +150	2.0	150	
TFA38S	-	800	3.0	50	4.7	60	5.0	0.5	5.0	2.0	-40 to +150	2.0	150	
TFA58S	-	800	5.0	50	7.8	80	5.0	0.5	5.0	2.0	-40 to +150	2.0	150	
TFA88S	-	800	8.0	50	12.6	120	5.0	0.5	5.0	2.0	-40 to +150	2.0	150	
TFA108S	-	800	10	50	15.7	160	5.0	0.5	5.0	2.0	-40 to +150	2.0	150	

### 3-Pin Reverse Conducting Thyristors for HID Lamp Ignition

Part Number	Absolute Maximum Ratings											I <sub>DRM</sub> (mA) max	Conditions T <sub>j</sub> (°C)	V <sub>TM</sub> (V) max	Conditions	
	V <sub>DRM</sub> (V)	I <sub>TRM</sub> <sup>*1</sup> (A)	di/dt <sup>*1</sup> (A/μs)	P <sub>GM</sub> (W)	P <sub>G</sub> (AV) (W)	V <sub>RGM</sub> (V)	I <sub>FGM</sub> <sup>*2</sup> (A)	I <sub>FRM</sub> (A)	T <sub>j</sub> (°C)	T <sub>stg</sub> (°C)	T <sub>c</sub> (°C)				I <sub>TM</sub> (A)	
TFC563D	600	500	1500	5.0	0.5	5.0	2.0	450	-40 to +125	1.0	125	1.4	25	10		

\*1: T<sub>c</sub>≤100°C, V<sub>D</sub>≤430V, W<sub>p</sub>≤1.0μs, I<sub>G</sub>≥70mA, dig/dt≥0.5A/μs, 100kcycles

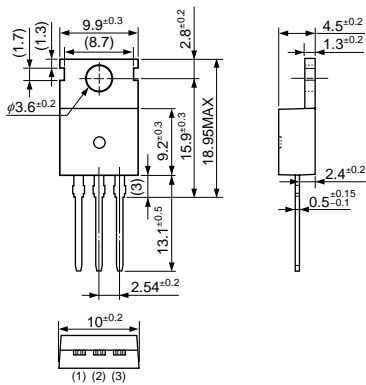
\*2: T<sub>c</sub>≤100°C, V<sub>D</sub>≤430V, W<sub>p</sub>≤1.0μs, 100kcycles

Electrical Characteristics																	Package	Mass g
V <sub>TM</sub> (V) max	Conditions T <sub>c</sub> (°C) I <sub>TM</sub> (A)		V <sub>GT</sub> (V)		I <sub>GT</sub> (mA)		Conditions T <sub>c</sub> (°C)	V <sub>GD</sub> (V) min	T <sub>j</sub> (°C)	Conditions V <sub>D</sub> (V)	dv/dt (V/μs) typ	Conditions T <sub>j</sub> (°C)	V <sub>D</sub> (V)	I <sub>H</sub> (mA) typ	R <sub>th</sub> (°C/W) max			
	1.4	25	10		1.5	0.03	0.2	25	0.1	125	1/2V <sub>DRM</sub>	20	125	1/2V <sub>DRM</sub>	4.0	4.0	TO220F	2.0
1.4	25	10	0.7	1.5	5.0	10	25	0.1	125	1/2V <sub>DRM</sub>	50	125	1/2V <sub>DRM</sub>	4.0		SIP12 with Fin (SLA12Pin)	6.0	
1.4	25	10		1.5	0.03	0.2	25	0.1	125	1/2V <sub>DRM</sub>	20	125	1/2V <sub>DRM</sub>	4.0	4.0	TO220F	2.0	
1.5	25	10	—	1.0	7.0	15	25	0.2	125	1/2V <sub>DRM</sub>	300	125	1/2V <sub>DRM</sub>	15	4.1	TO220F	2.0	
1.5	25	15	—	1.0	7.0	15	25	0.2	125	1/2V <sub>DRM</sub>	300	125	1/2V <sub>DRM</sub>	15	3.8	TO220F	2.0	
1.4	25	20	—	1.0	7.0	15	25	0.2	125	1/2V <sub>DRM</sub>	300	125	1/2V <sub>DRM</sub>	20	3.5	TO220F	2.0	
1.35	25	20	—	1.0	7.0	15	25	0.2	125	1/2V <sub>DRM</sub>	300	125	1/2V <sub>DRM</sub>	20	3.4	TO220F	2.0	
1.5	25	10	—	1.0	—	15	25	0.2	125	1/2V <sub>DRM</sub>	300	125	1/2V <sub>DRM</sub>	15	4.1	TO220F	2.0	
1.5	25	15	—	1.0	—	15	25	0.2	125	1/2V <sub>DRM</sub>	300	125	1/2V <sub>DRM</sub>	15	3.8	TO220F	2.0	
1.5	25	20	—	1.0	—	15	25	0.2	125	1/2V <sub>DRM</sub>	300	125	1/2V <sub>DRM</sub>	20	3.5	TO220F	2.0	
1.35	25	20	—	1.0	—	15	25	0.2	125	1/2V <sub>DRM</sub>	300	125	1/2V <sub>DRM</sub>	20	3.4	TO220F	2.0	

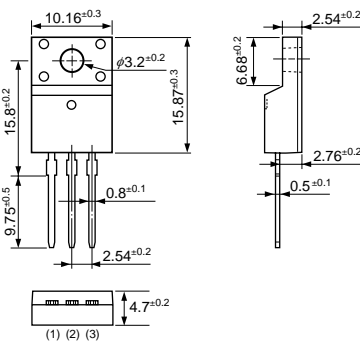
Electrical Characteristics												Package	Mass (g)
V <sub>GT</sub> (V)		I <sub>GT</sub> (mA)		Conditions T <sub>c</sub> (°C)	V <sub>GD</sub> (V) min	Conditions T <sub>j</sub> (°C) V <sub>D</sub> (V)		I <sub>H</sub> (mA) typ	R <sub>th</sub> (°C/W) max	V <sub>F</sub> (V) max	Conditions IF (A)		
typ	max	typ	max	(°C)	(V)	(°C)	(V)	(mA)	(°C/W)	(V)	(A)	TO-220S	1.5
	1.5		30	25	0.1	125	480	12	4.0	1.4	10		

# Package Type (Dimensions)

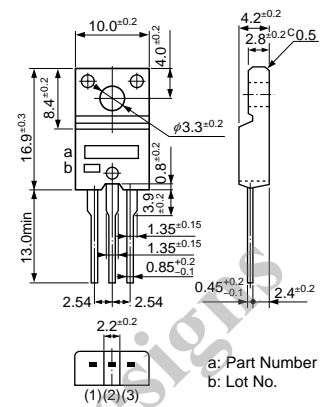
• TO-220



• TO-220F-A



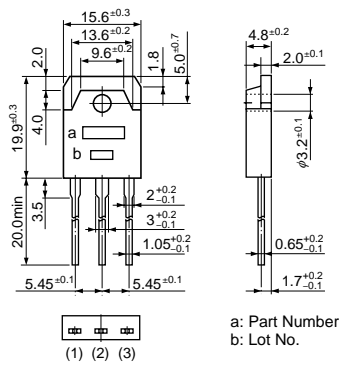
• TO-220F



a: Part Number  
b: Lot No.

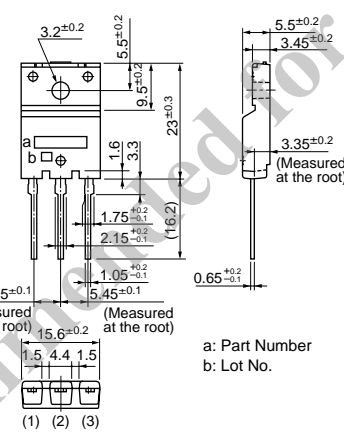
Pin No.	
(1)	Cathode (T <sub>1</sub> )
(2)	Anode (T <sub>2</sub> )
(3)	Gate (G)
( )	Triacs

• TO-3P



a: Part Number  
b: Lot No.

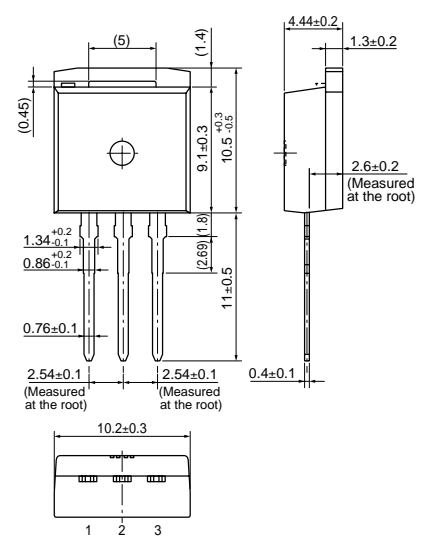
• TO-3PF



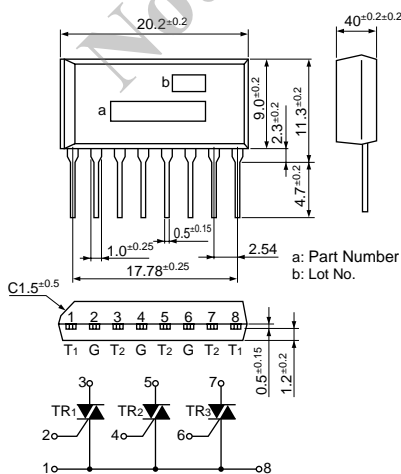
a: Part Number  
b: Lot No.

- (1) Terminal 1 (T<sub>1</sub>)
- (2) Terminal 2 (T<sub>2</sub>)
- (3) Gate (G)

• TO-220S Straight

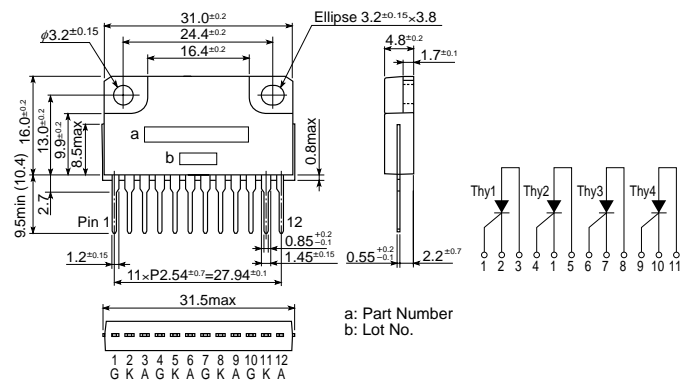


• STA8Pin



a: Part Number  
b: Lot No.

• SLA12Pin



a: Part Number  
b: Lot No.

(Unit: mm)