

3-1 Thyristors

Thyristors

| Part Number | Absolute Maximum Ratings | | | | | | | | | | | | I _{RRM} I _{IDRM} (mA) max | Conditions T _j (°C) |
|-------------|---|--|----------------------------|--------------------------------------|---------------------------------------|--|------------------------|----------------------------|-------------------------|-------------------------|------------------------|--------------------------|--|--------------------------------------|
| | V _{RSM} V _{DSM} (V) | V _{R_{RM}} V _{DRM} (V) | I _T (AV) (A) | Conditions T _c (°C) | I _T (RMS) (50Hz) (A) | I _{TSM} 50Hz Single Half Sine Wave, Default T _j =125°C (A) | P _{GM} (W) | P _G (AV) (W) | V _{RGM} (V) | I _{FGM} (A) | T _j (°C) | T _{stg} (°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 _{IDRM} (mA) max | Conditions T _j (°C) | V _{TM} (V) max | Conditions | |
|-------------|--------------------------|---------------------------------------|-------------------------------|------------------------|----------------------------|-------------------------|---------------------------------------|-------------------------|------------------------|--------------------------|----------------------------------|--------------------------------------|-------------------------------|------------------------|------------------------|
| | V _{DRM} (V) | I _{TRM} ^{*1} (A) | di/dt ^{*1} (A/μs) | P _{GM} (W) | P _G (AV) (W) | V _{RGM} (V) | I _{FGM} ^{*2} (A) | I _{FRM} (A) | T _j (°C) | T _{stg} (°C) | | | | T _c (°C) | I _{TM} (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_c≤100°C, V_D≤430V, W_p≤1.0μs, I_G≥70mA, dig/dt≥0.5A/μs, 100kcycles

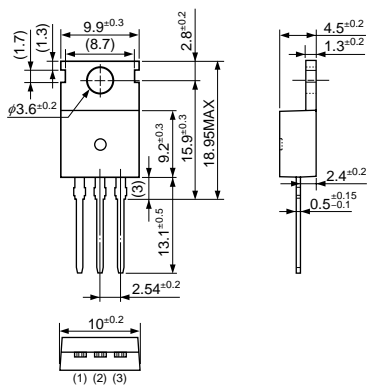
*2: T_c≤100°C, V_D≤430V, W_p≤1.0μs, 100kcycles

| Electrical Characteristics | | | | | | | | | | | | | | | | | Package | Mass g |
|-------------------------------|---|----|------------------------|-----|-------------------------|------|-----------------------------------|-------------------------------|------------------------|----------------------------------|------------------------|-----------------------------------|-----------------------|-------------------------------|----------------------------------|------------------------------|---------|-----------|
| V _{TM} (V) max | Conditions T _c (°C) I _{TM} (A) | | V _{GT} (V) | | I _{GT} (mA) | | Conditions T _c (°C) | V _{GD} (V) min | T _j (°C) | Conditions V _D (V) | dv/dt (V/μs) typ | Conditions T _j (°C) | V _D (V) | I _H (mA) typ | R _{th} (°C/W) max | TO220F | | |
| | 1.4 | 25 | 10 | | 1.5 | 0.03 | 0.2 | 25 | 0.1 | 125 | 1/2V _{DRM} | 20 | 125 | 1/2V _{DRM} | 4.0 | | 4.0 | TO220F |
| 1.4 | 25 | 10 | 0.7 | 1.5 | 5.0 | 10 | 25 | 0.1 | 125 | 1/2V _{DRM} | 50 | 125 | 1/2V _{DRM} | 4.0 | | SIP12 with Fin (SLA12Pin) | 6.0 | |
| 1.4 | 25 | 10 | | 1.5 | 0.03 | 0.2 | 25 | 0.1 | 125 | 1/2V _{DRM} | 20 | 125 | 1/2V _{DRM} | 4.0 | 4.0 | TO220F | 2.0 | |
| 1.5 | 25 | 10 | — | 1.0 | 7.0 | 15 | 25 | 0.2 | 125 | 1/2V _{DRM} | 300 | 125 | 1/2V _{DRM} | 15 | 4.1 | TO220F | 2.0 | |
| 1.5 | 25 | 15 | — | 1.0 | 7.0 | 15 | 25 | 0.2 | 125 | 1/2V _{DRM} | 300 | 125 | 1/2V _{DRM} | 15 | 3.8 | TO220F | 2.0 | |
| 1.4 | 25 | 20 | — | 1.0 | 7.0 | 15 | 25 | 0.2 | 125 | 1/2V _{DRM} | 300 | 125 | 1/2V _{DRM} | 20 | 3.5 | TO220F | 2.0 | |
| 1.35 | 25 | 20 | — | 1.0 | 7.0 | 15 | 25 | 0.2 | 125 | 1/2V _{DRM} | 300 | 125 | 1/2V _{DRM} | 20 | 3.4 | TO220F | 2.0 | |
| 1.5 | 25 | 10 | — | 1.0 | — | 15 | 25 | 0.2 | 125 | 1/2V _{DRM} | 300 | 125 | 1/2V _{DRM} | 15 | 4.1 | TO220F | 2.0 | |
| 1.5 | 25 | 15 | — | 1.0 | — | 15 | 25 | 0.2 | 125 | 1/2V _{DRM} | 300 | 125 | 1/2V _{DRM} | 15 | 3.8 | TO220F | 2.0 | |
| 1.5 | 25 | 20 | — | 1.0 | — | 15 | 25 | 0.2 | 125 | 1/2V _{DRM} | 300 | 125 | 1/2V _{DRM} | 20 | 3.5 | TO220F | 2.0 | |
| 1.35 | 25 | 20 | — | 1.0 | — | 15 | 25 | 0.2 | 125 | 1/2V _{DRM} | 300 | 125 | 1/2V _{DRM} | 20 | 3.4 | TO220F | 2.0 | |

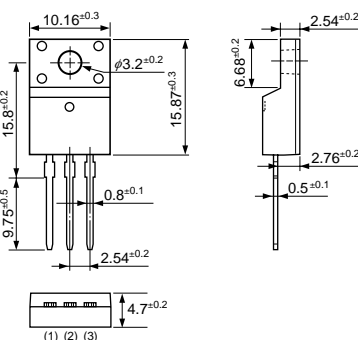
| Electrical Characteristics | | | | | | | | | | | | Package | Mass (g) |
|----------------------------|-----|-------------------------|-----|--------------------------------------|-------------------------------|--|-----|-------------------------------|----------------------------------|------------------------------|-------------------------|---------|-------------|
| V _{GT} (V) | | I _{GT} (mA) | | Conditions T _c (°C) | V _{GD} (V) min | Conditions T _j (°C) V _D (V) | | I _H (mA) typ | R _{th} (°C/W) max | V _F (V) max | Conditions IF (A) | | |
| typ | max | typ | max | 25 | 0.1 | 125 | 480 | 12 | 4.0 | 1.4 | 10 | TO-220S | 1.5 |

Package Type (Dimensions)

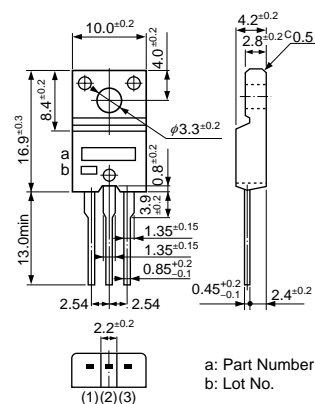
• TO-220



• TO-220F-A



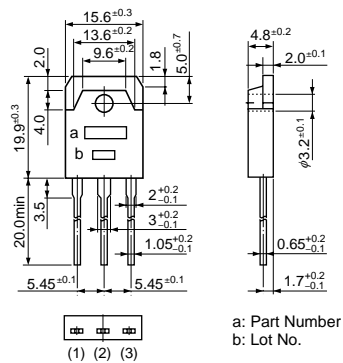
• TO-220F



a: Part Number
b: Lot No.

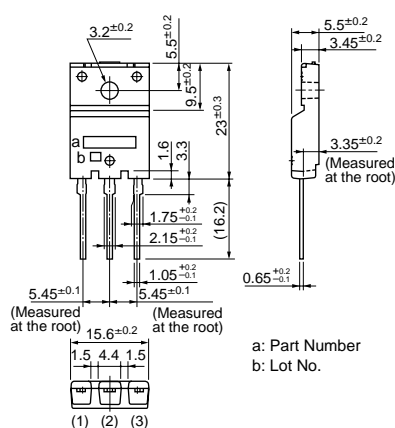
| Pin No. | |
|---------|---------------------------|
| (1) | Cathode (T ₁) |
| (2) | Anode (T ₂) |
| (3) | Gate (G) |
| () | Triacs |

• TO-3P



a: Part Number
b: Lot No.

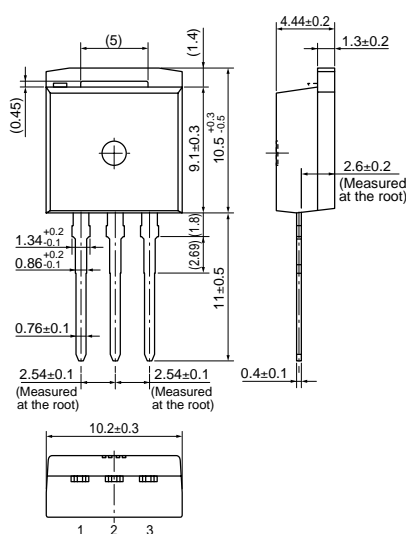
• TO-3PF



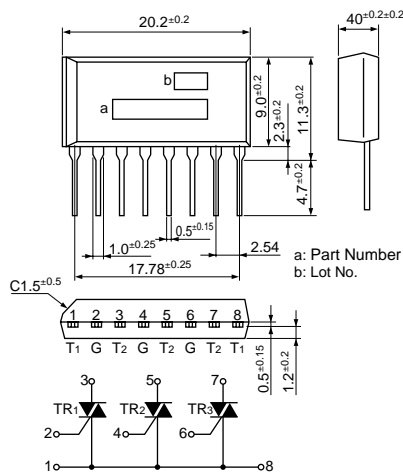
a: Part Number
b: Lot No.

- (1) Terminal 1 (T₁)
- (2) Terminal 2 (T₂)
- (3) Gate (G)

• TO-220S Straight

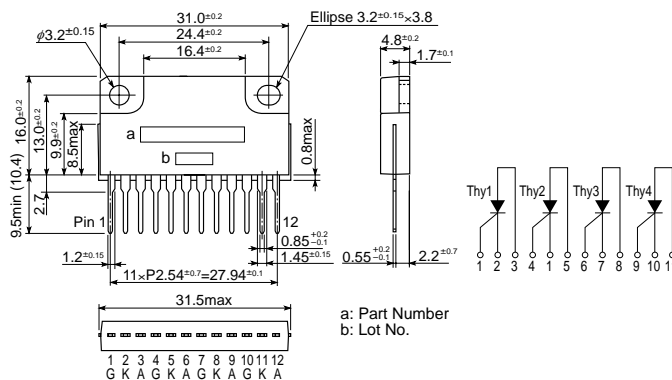


• STA8Pin



a: Part Number
b: Lot No.

• SLA12Pin



a: Part Number
b: Lot No.

(Unit: mm)