ShinDengen

# KD8SF60

## TRIACs
## 600V, 8A

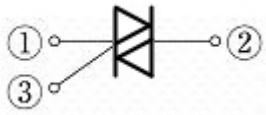
### Feature

- Full molded
- High voltage
- Tj=150℃
- Stable surge-on current capability
- Pb free terminal
- RoHS:Yes

### OUTLINE

**Package (House Name):** FTO-220AG
**Package (JEITA Code):** SC-91

### Equivalent circuit



## Absolute Maximum Ratings (unless otherwise specified : Tc=25℃)

| Item | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Storage temperrature | Tstg | | -55 to 150 | ℃ |
| Junction temperature | Tj | | -40 to 150 | ℃ |
| Repetitive peak off-state voltage | $V_{DRM}$ | | 600 | V |
| Non-repetitive peak off-state voltage | $V_{DSM}$ | ※ | 720 | V |
| R.M.S. on-state current | $I_{T(RMS)}$ | Tc=110℃, commercial frequency, sine wave, θ=360℃ | 8 | A |
| Surge on-state current | $I_{TSM}$ | Tj=25℃, 60Hz sine wave, Non-repetive 1 cycle peak | 80 | A |
| Current squared time | $I^2t$ | Tj=25℃, t=8.33ms, Non-repetitive | 26 | $A^2S$ |
| Critical rate of rise of on-state current | di/dt | | 50 | A/μs |
| Peak gate dissipation | $P_{GM}$ | f=60Hz, Duty≦10% | 5 | W |
| Average gate dissipation | $P_G(AV)$ | | 0.5 | W |
| Peak gate current | $I_{GM}$ | f=60Hz, Duty≦10% | 2 | A |
| Peak gate voltage | $V_{GM}$ | | 10 | V |
| Dielectric strength | Vdis | Terminals to case, AC 1 minute | 2 | kV |
| Mounting Torque | TOR | (Recommended torque:0.3N・m) | 0.5 | N・m |

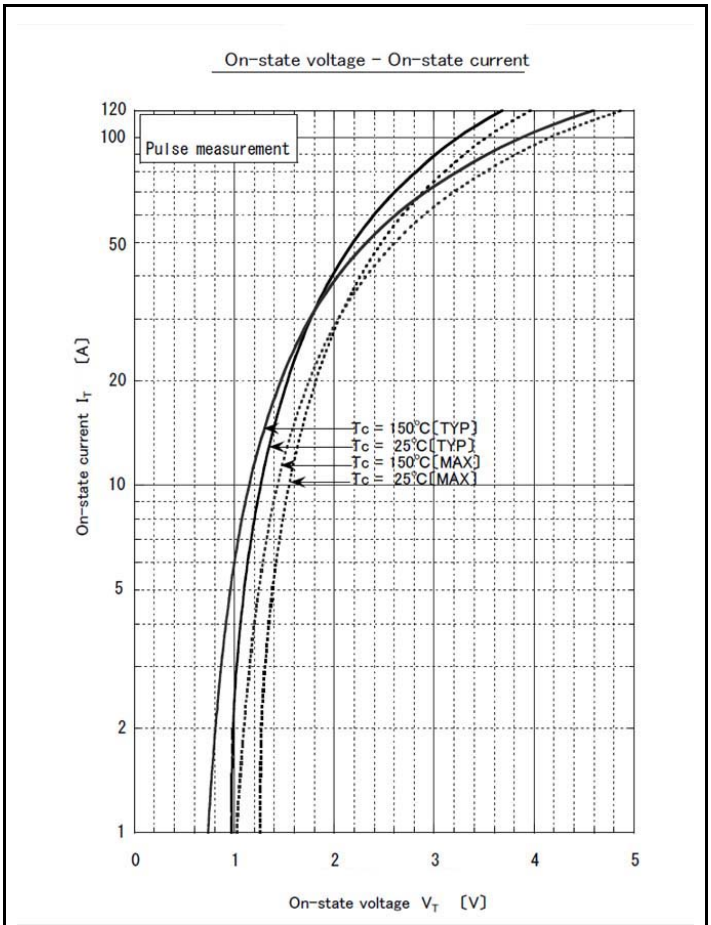
※ ：See the original Specifications

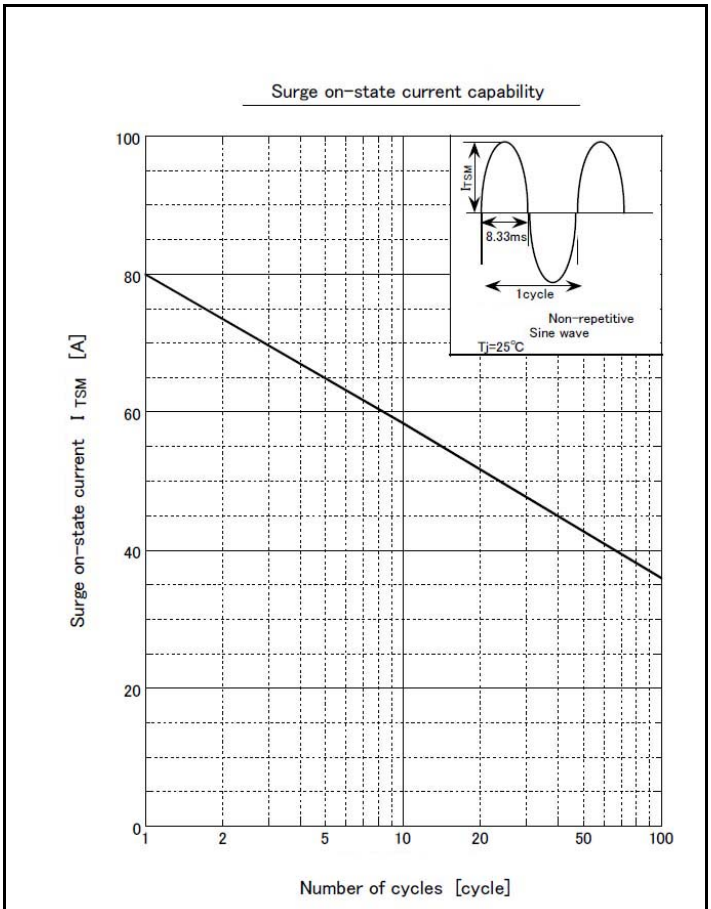
## Electrical Characteristics (unless otherwise specified : Tc=25℃)

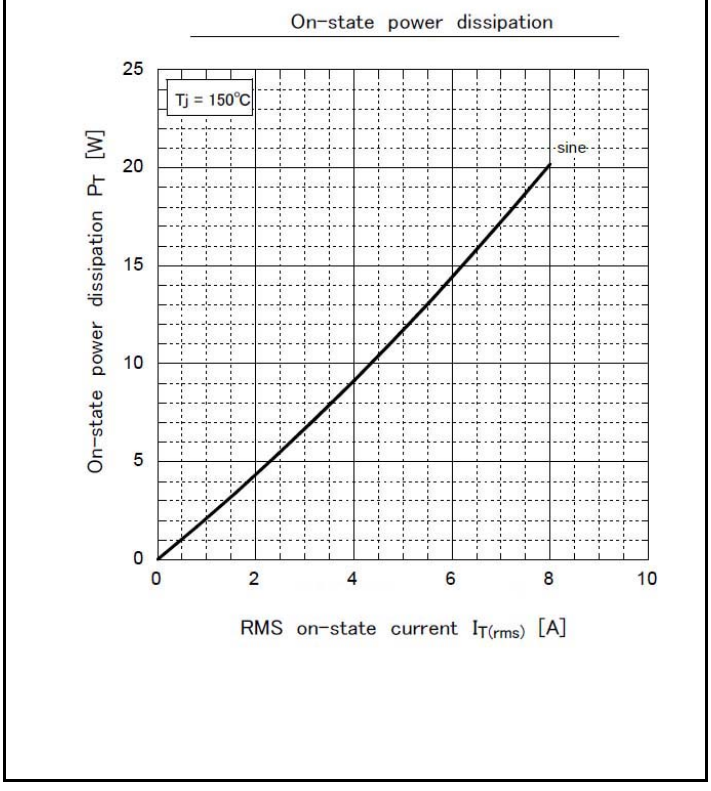
| Item | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | MIN | TYP | MAX | |
| Off-state current | $I_{DRM}$ | VD=600V, Pulse measurement | | | 10 | μA |
| On-state voltage | $V_{TM}$ | ITM=12A, Pulse measurement | | | 1.6 | V |
| Gate trigger voltage | $V_{GTI}$ | VD=6V, RL=10Ω, T1-, T2+, G+ | | | 1.5 | V |
| Gate trigger voltage | $V_{GTII}$ | VD=6V, RL=10Ω, T1-, T2+, G- | | | 1.5 | V |
| Gate trigger voltage | $V_{GTIII}$ | VD=6V, RL=10Ω, T1+, T2-, G- | | | 1.5 | V |
| Gate trigger voltage | $V_{GTIV}$ | VD=6V, RL=10Ω, T1+, T2-, G+ | | | - ※ | V |
| Gate non-trigger voltage | $V_{GD}$ | Tj=150℃, VD=1/2VDRM | 0.1 | | | V |
| Gate trigger current | $I_{GTI}$ | VD=6V, RL=10Ω, T1-, T2+, G+ | | | 30 | mA |
| Gate trigger current | $I_{GTII}$ | VD=6V, RL=10Ω, T1-, T2+, G- | | | 30 | mA |
| Gate trigger current | $I_{GTIII}$ | VD=6V, RL=10Ω, T1+, T2-, G- | | | 30 | mA |
| Gate trigger current | $I_{GTIV}$ | VD=6V, RL=10Ω, T1+, T2-, G+ | | | - ※ | mA |
| Latching current | $I_{LI}$ | IG=0.1A, T1-, T2+, G+ | | | 100 | mA |
| Latching current | $I_{LII}$ | IG=0.1A, T1-, T2+, G- | | | 100 | mA |
| Latching current | $I_{LIII}$ | IG=0.1A, T1+, T2-, G- | | | 100 | mA |
| Latching current | $I_{LIV}$ | IG=0.1A, T1+, T2-, G+ | | | - ※ | mA |
| Holding current | $I_H$ | ITM=1A | | | 100 | mA |
| Critical rate of rise of off-state voltage | dv/dt | Tj=150℃,VD=2/3VDRM | 100 | | | V/μs |
| Critical rate of rise of commutating voltage | (dv/dt)c | Tj=150℃, VD=2/3VDRM, (di/dt)c=-4A/ms | 1 | | | V/μs |
| Thermal resistance | Rth(j-c) | Junction to case with heatsink | | | 1.95 | ℃/W |

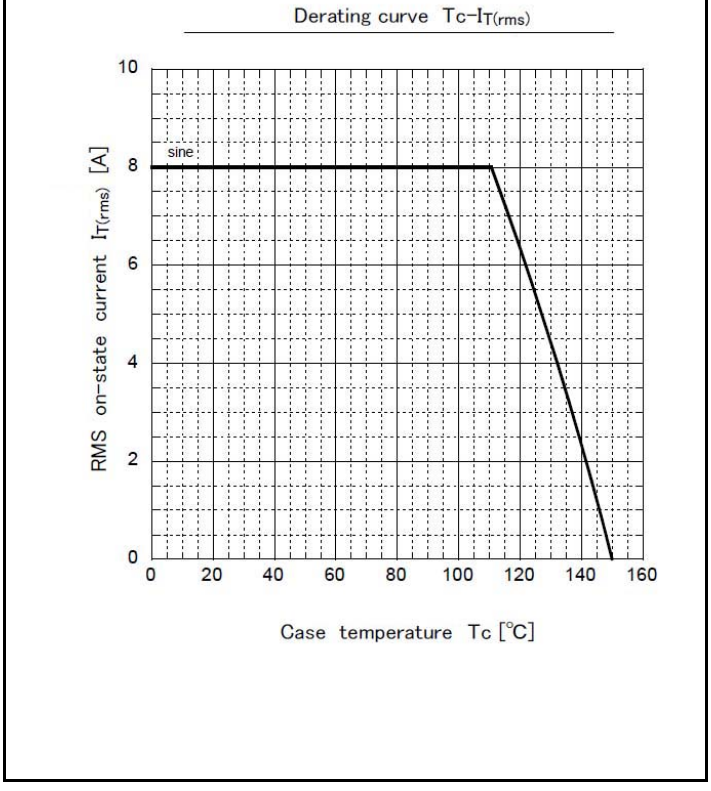
※ :See the original Specifications

## CHARACTERISTIC DIAGRAMS

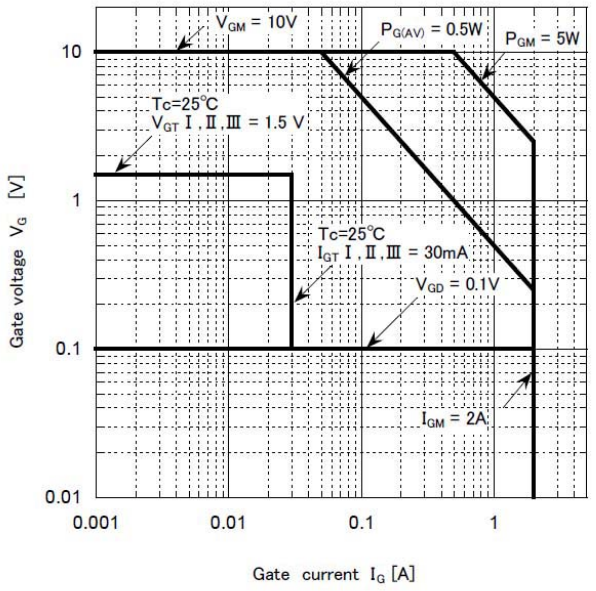


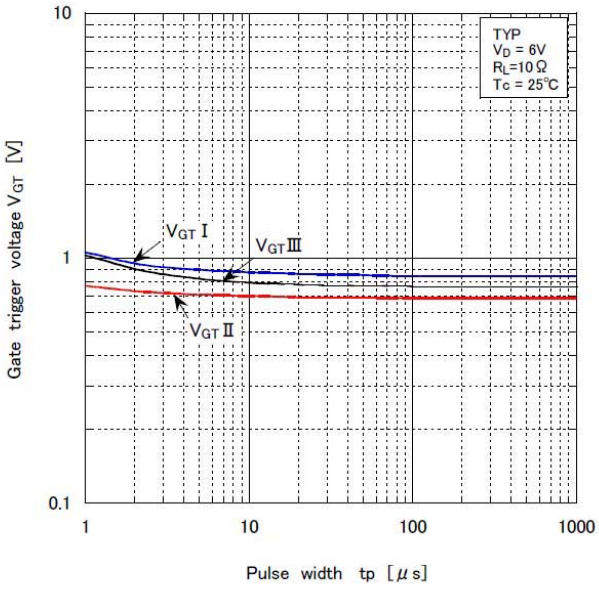



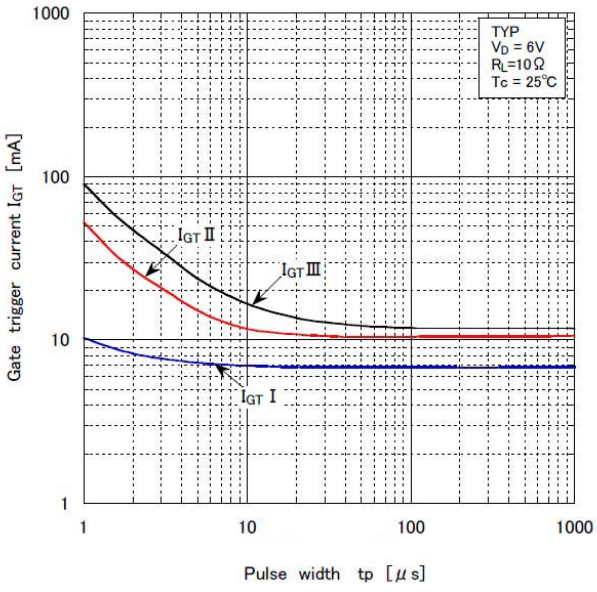
Gate characteristic



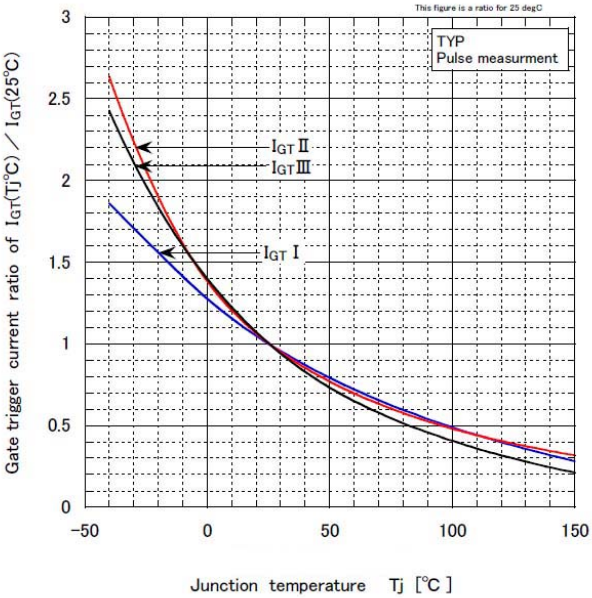

Gate trigger voltage vs Pulse width



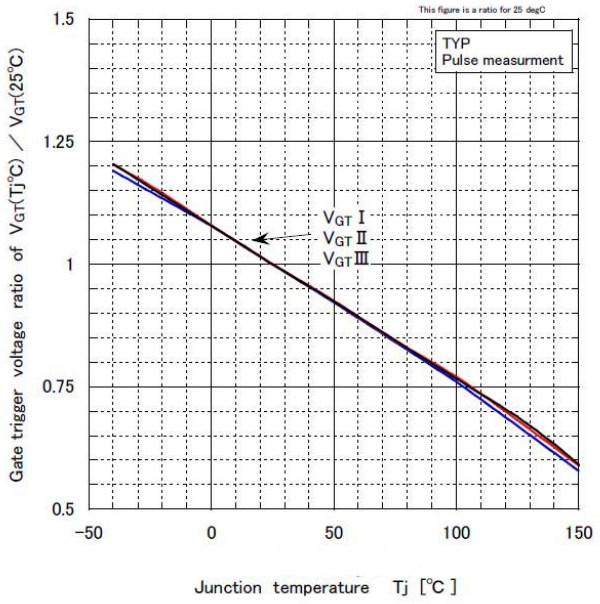

Gate trigger current vs Pulse width



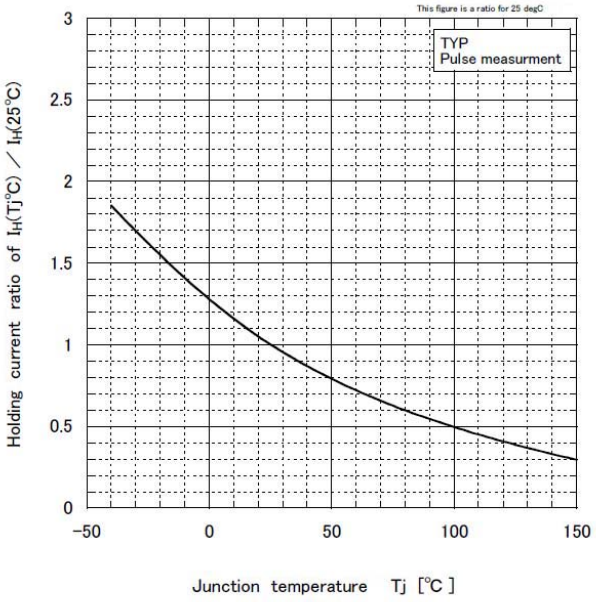

Gate trigger current vs Junction temperature



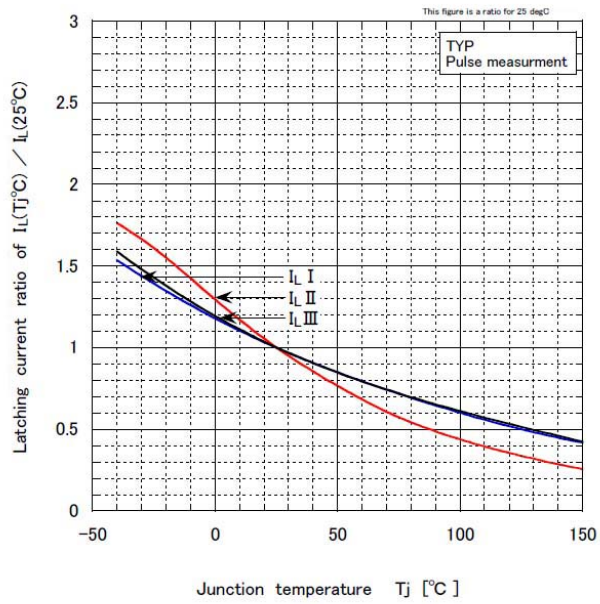
Gate trigger voltage vs Junction temperature

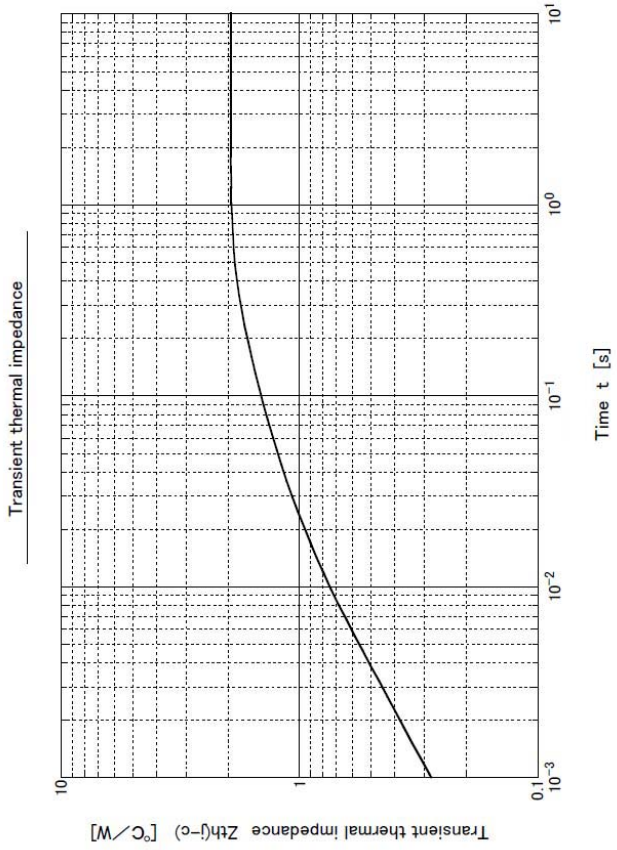



Holding current vs Junction temperature




Latching current vs Junction temperature



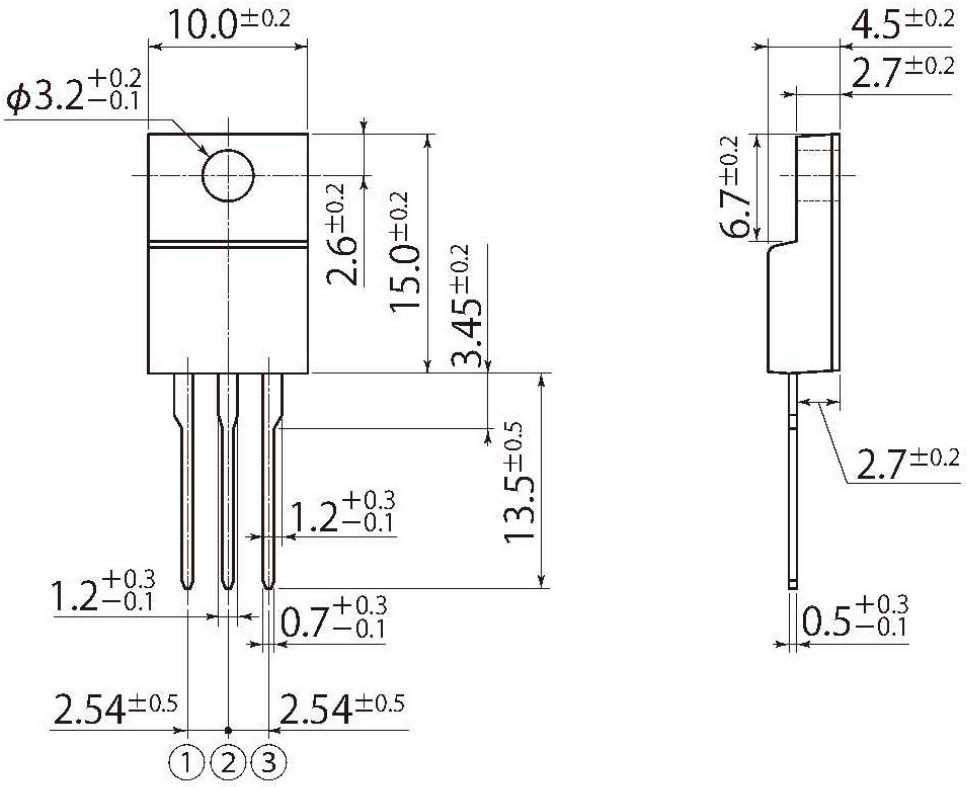



## Outline Dimensions

unit:mm

J8

| | |
|---|---|
| JEDEC Code | – |
| JEITA Code | SC-91 |
| House Name | FTO-220AG(3pin) |



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