ShinDengen

KD12SF60S

TRIACs
600V, 12A

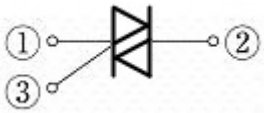
Feature

- 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=119℃, commercial frequency, sine wave, θ=360℃	12	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}	f=60Hz, Duty≦10%	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

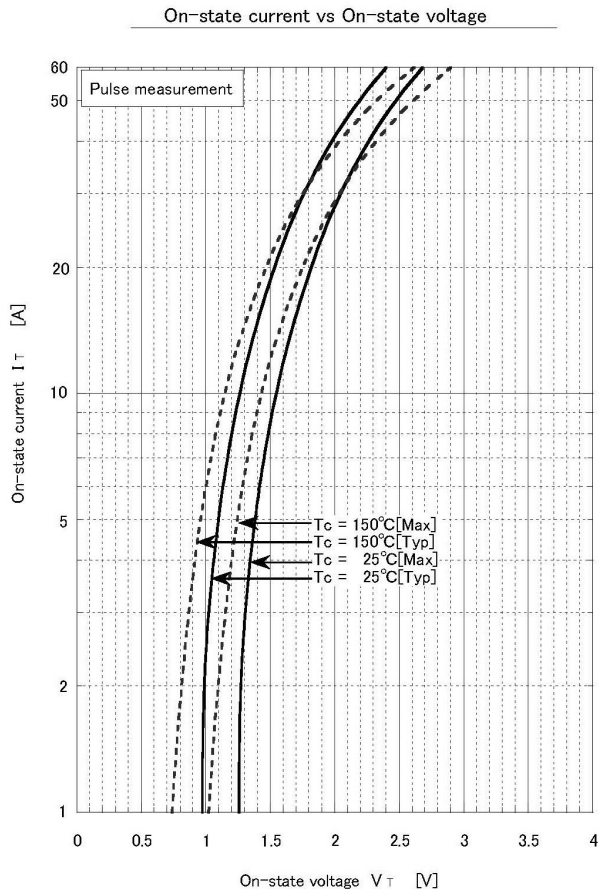
※ :See the original Specifications

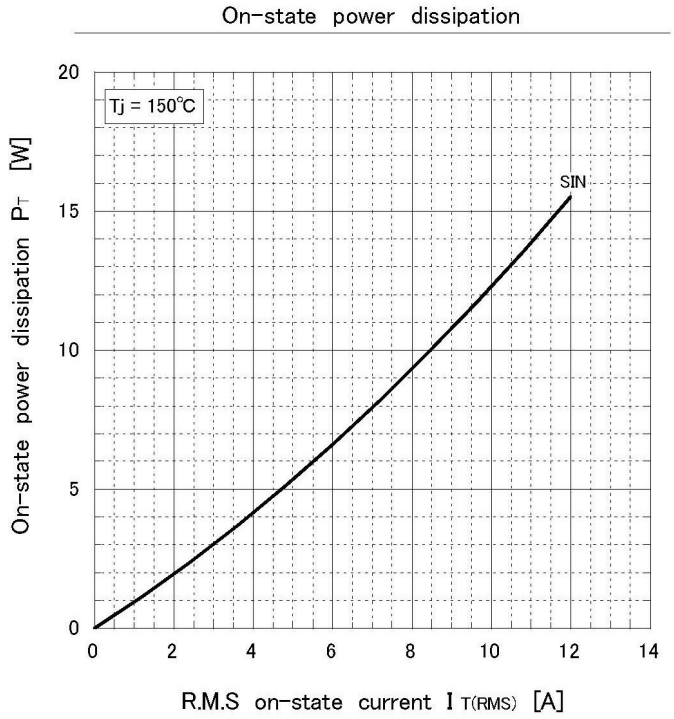
Electrical Characteristics (unless otherwise specified : Tc=25℃)

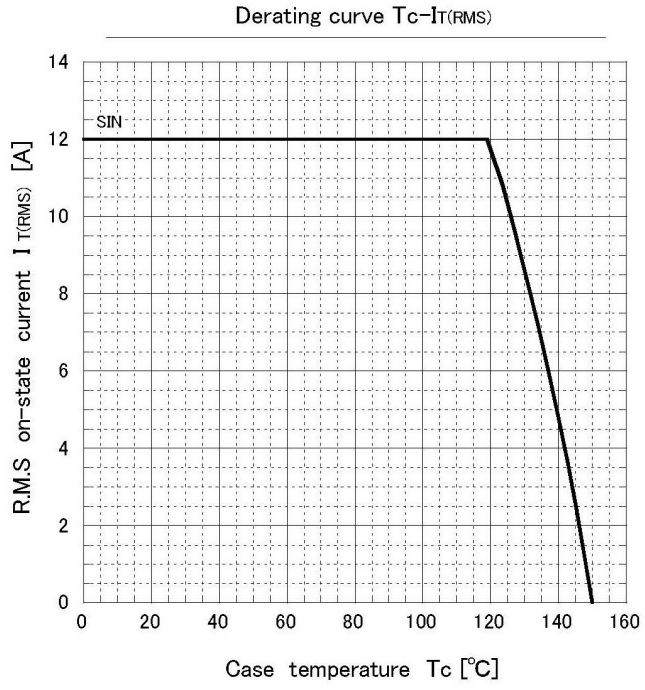
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Off-state current	I_{DRM}	VD=600V, Pulse measurement			10	μA
On-state voltage	V_{TM}	ITM=12A, Pulse measurement			1.6	V
Gate trigger voltage	V_{GTI}	VD=6V, RL=10Ω, T1-, T2+, G+			1.5	V
Gate trigger voltage	V_{GTII}	VD=6V, RL=10Ω, T1-, T2+, G-			1.5	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	IT=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=-6A/ms	1			V/μs
Thermal resistance	Rth(j-c)	Junction to case with heatsink			1.95	℃/W

※ :See the original Specifications

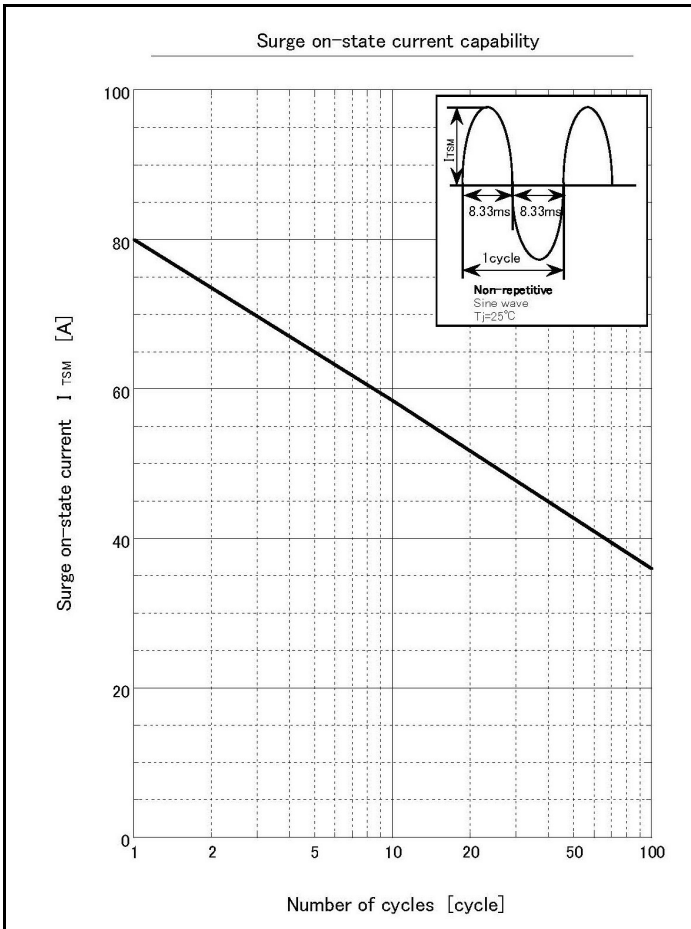
CHARACTERISTIC DIAGRAMS



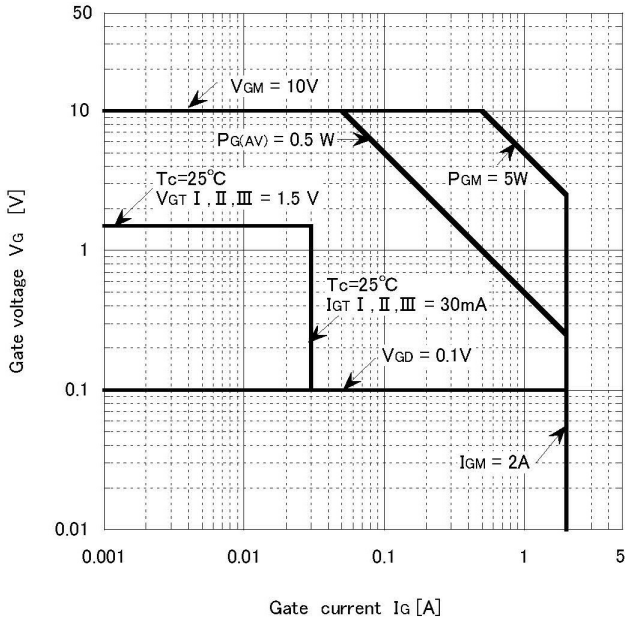




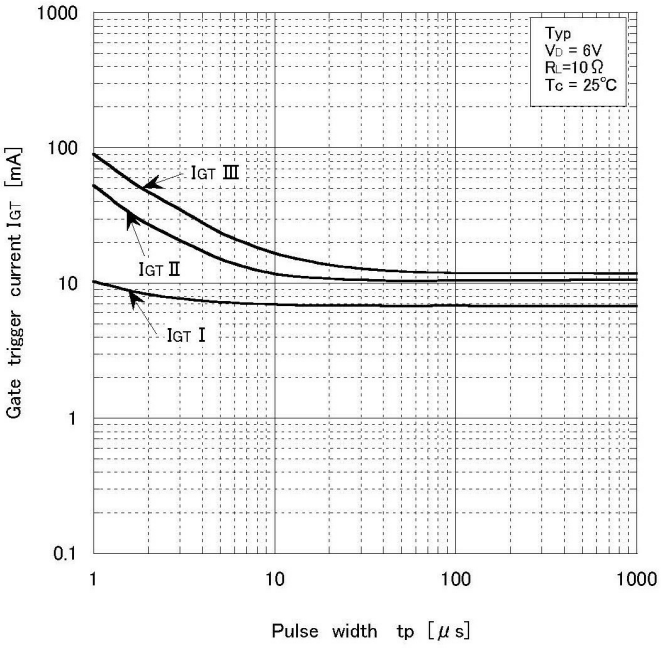
●With heatsink
Conduction angle θ=360°



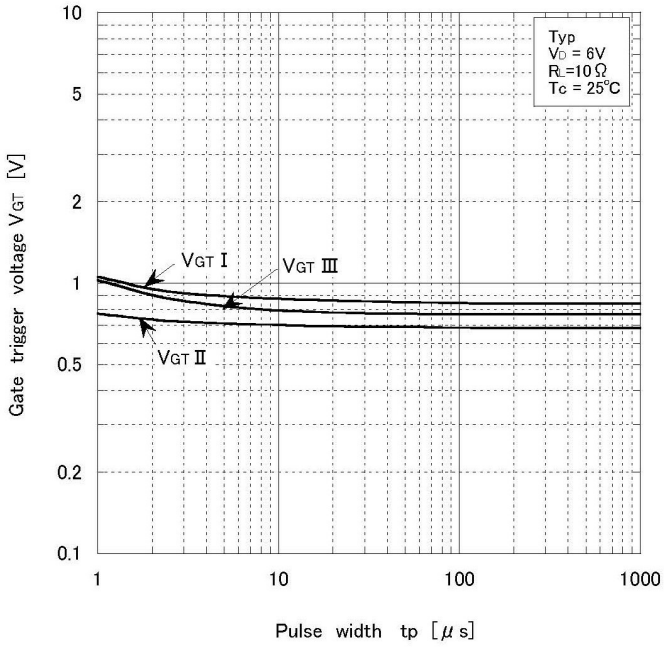
Gate characteristic



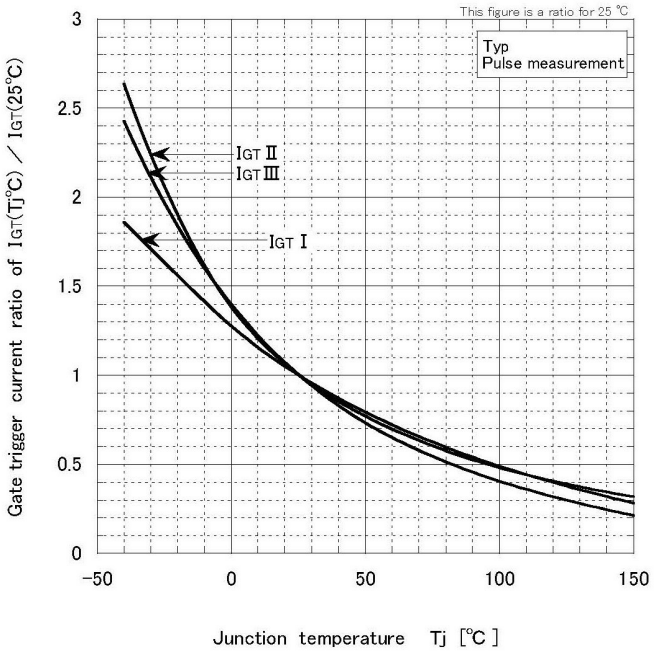
Gate trigger current vs Pulse width



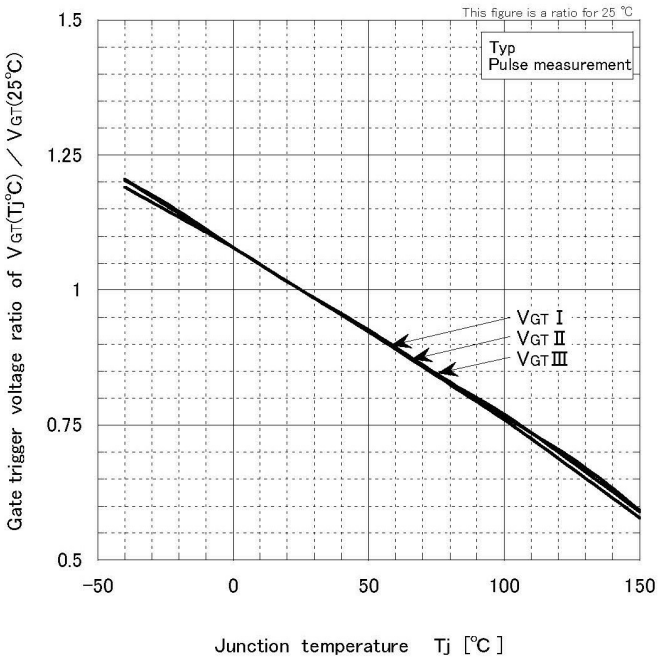
Gate trigger voltage vs Pulse width



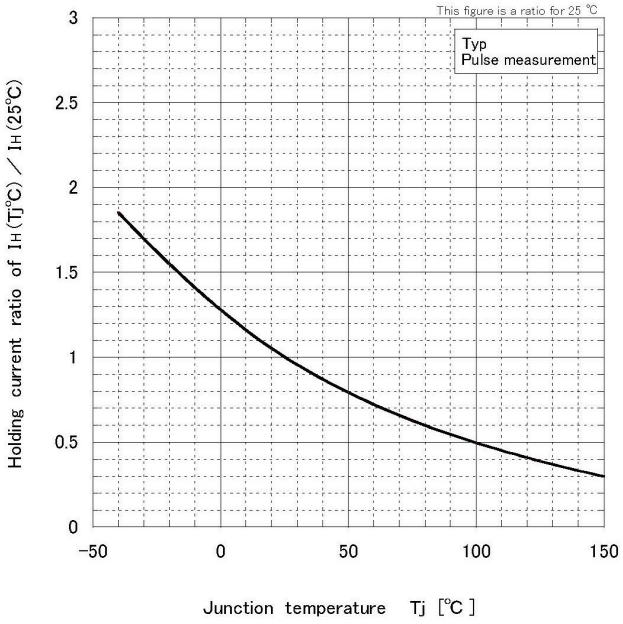
Gate trigger current ratio vs Junction temperature



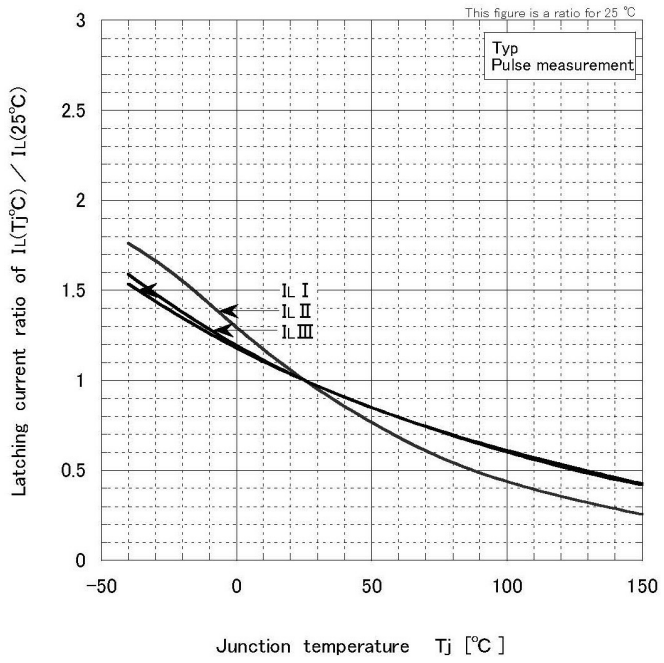
Gate trigger voltage ratio vs Junction temperature

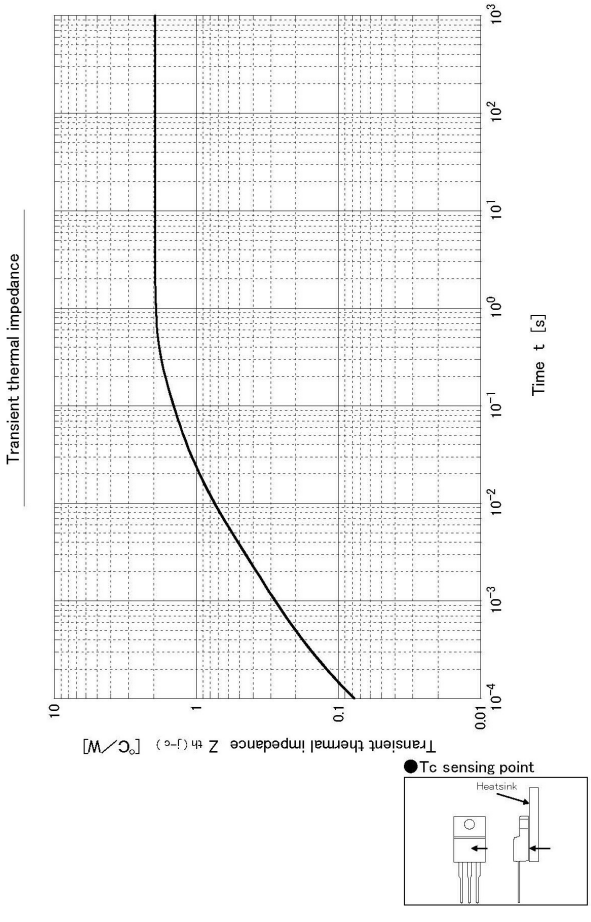


Holding current ratio vs Junction temperature



Latching current ratio vs Junction temperature



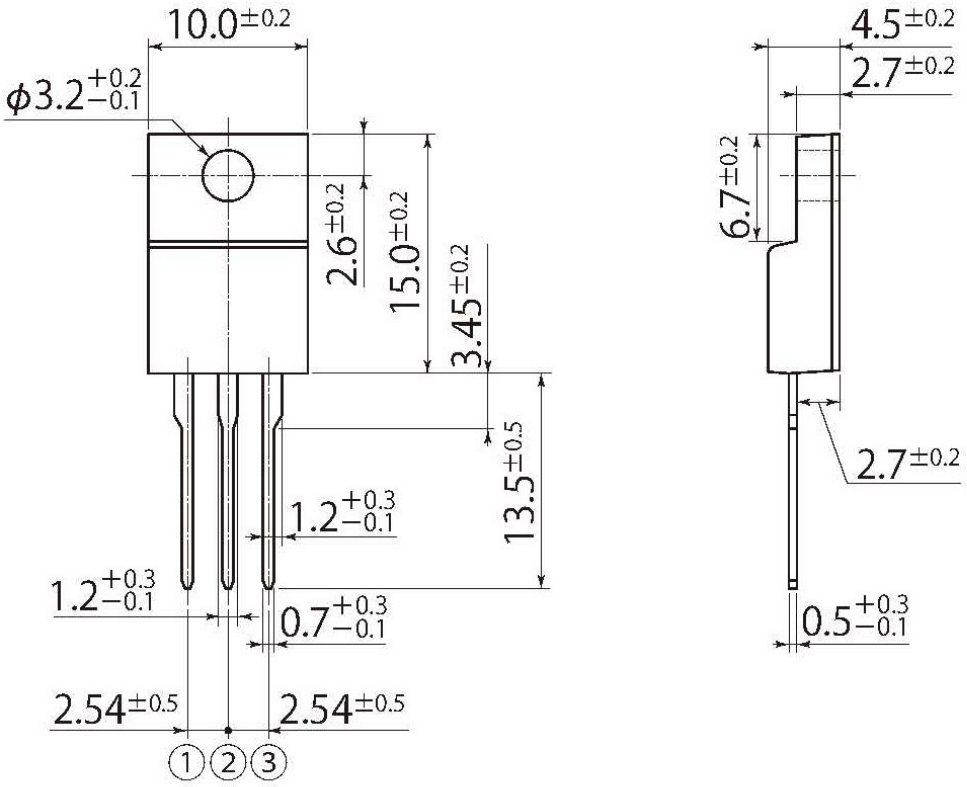


Outline Dimensions

unit:mm

J8

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



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