

## KD5SF60

TRIACs

600V, 5A

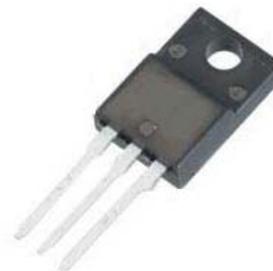
### Feature

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

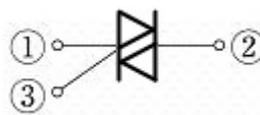
### OUTLINE

Package (House Name): FTO-220AG

Package (JEITA Code): SC-91



### Equivalent circuit



**Absolute Maximum Ratings** (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	T <sub>stg</sub>		-55 to 150	°C
Junction temperature	T <sub>j</sub>		-40 to 150	°C
Repetitive peak off-state voltage	V <sub>DRM</sub>		600	V
Non-repetitive peak off-state voltage	V <sub>DSM</sub>	*	720	V
R.M.S. on-state current	I <sub>T(RMS)</sub>	T <sub>c</sub> =121°C, commercial frequency, sine wave, $\theta=360^\circ\text{C}$	5	A
Surge on-state current	I <sub>TSM</sub>	T <sub>j</sub> =25°C, 60Hz sine wave, Non-repetive 1 cycle peak	50	A
Current squared time	I <sup>2</sup> t	T <sub>j</sub> =25°C, t=8.33ms, Non-repetitive	10.4	A <sup>2</sup> S
Critical rate of rise of on-state current	di/dt		50	A/μs
Peak gate dissipation	P <sub>GM</sub>	f=60Hz, Duty≤10%	5	W
Average gate dissipation	P <sub>G(AV)</sub>		0.5	W
Peak gate current	I <sub>GM</sub>	f=60Hz, Duty≤10%	2	A
Peak gate voltage	V <sub>GM</sub>		10	V
Dielectric strength	V <sub>dis</sub>	Terminals to case, AC 1 minute	2	kV
Mounting Torque	TOR	(Recommended torque:0.3N·m)	0.5	N·m

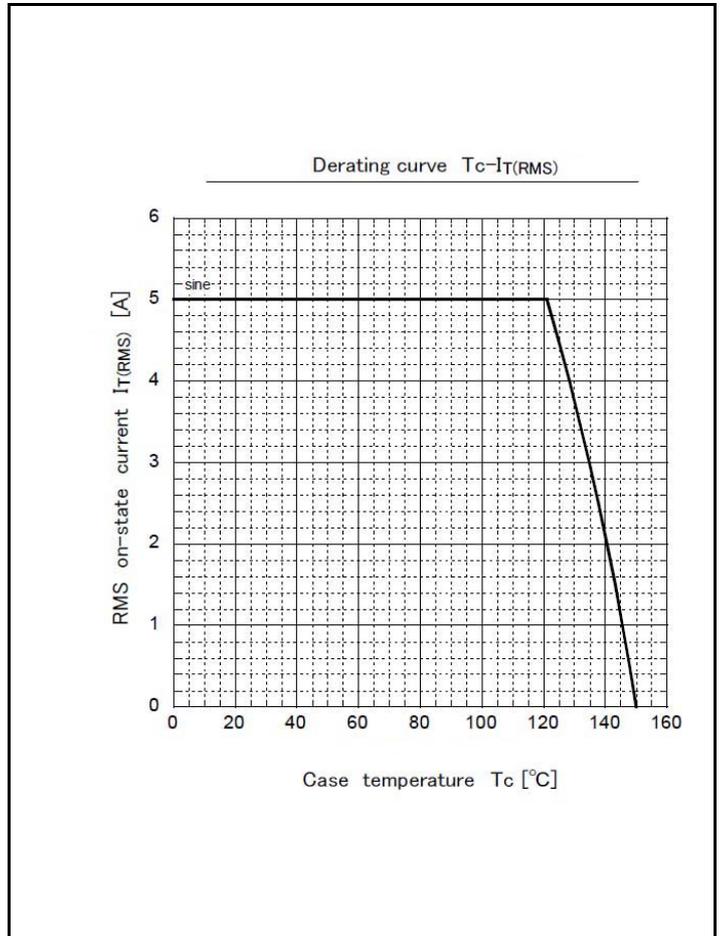
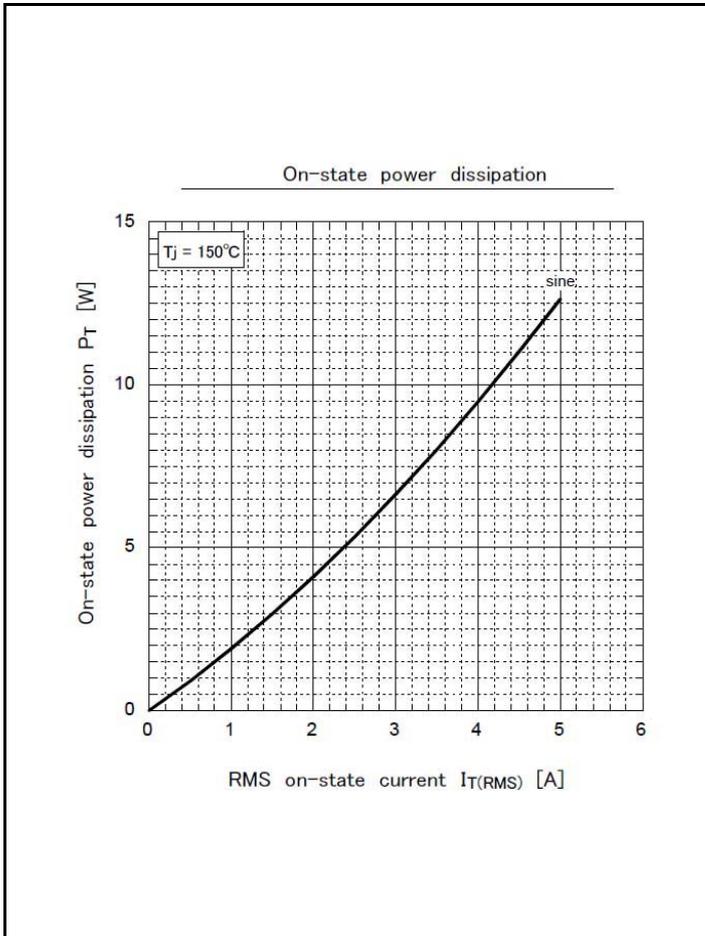
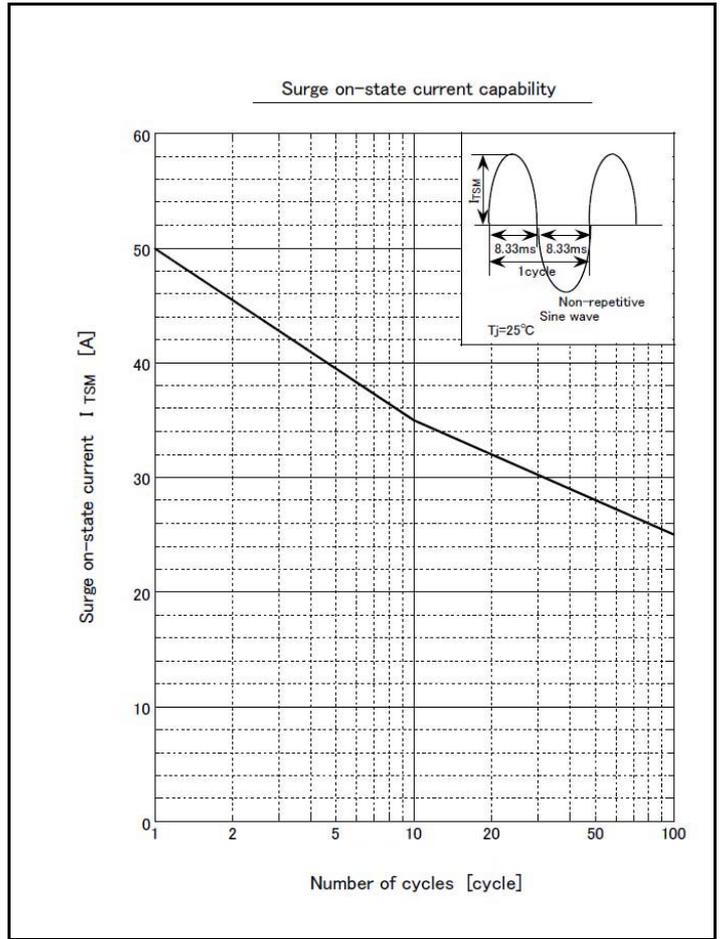
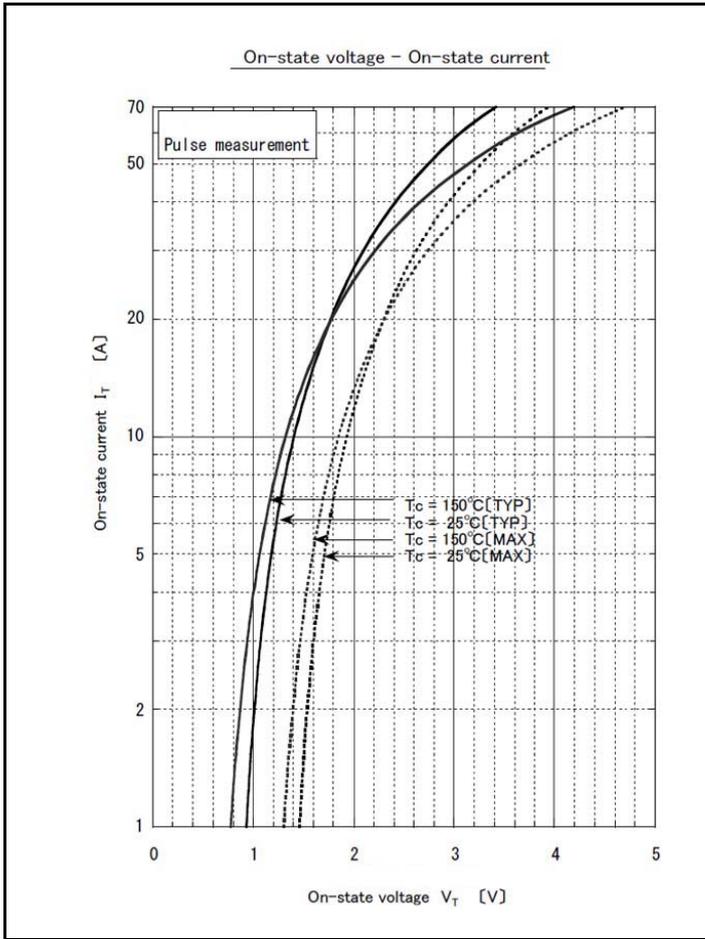
\* :See the original Specifications

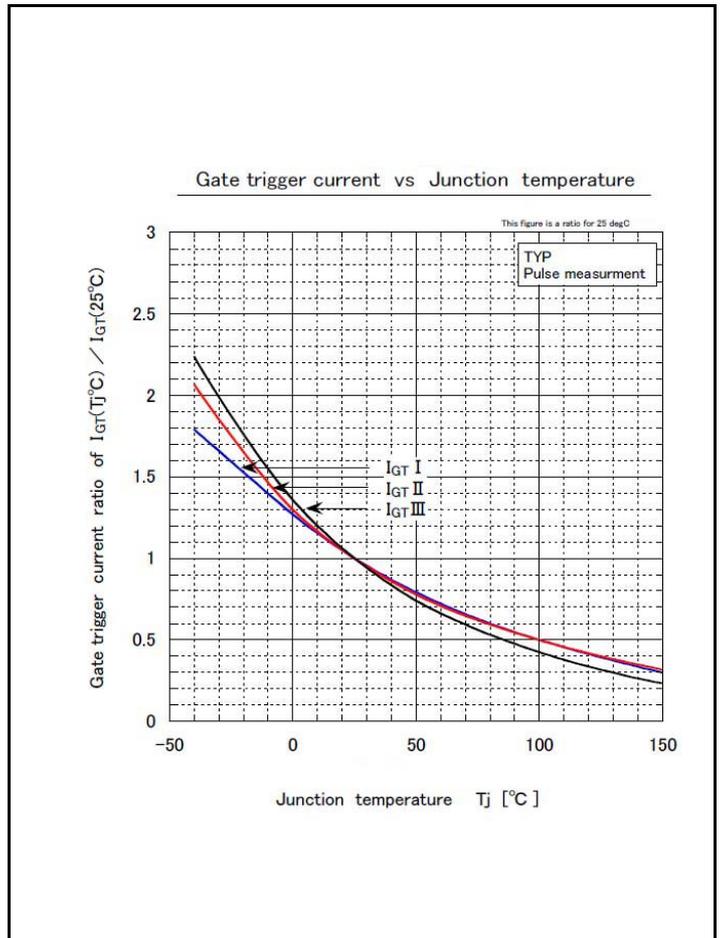
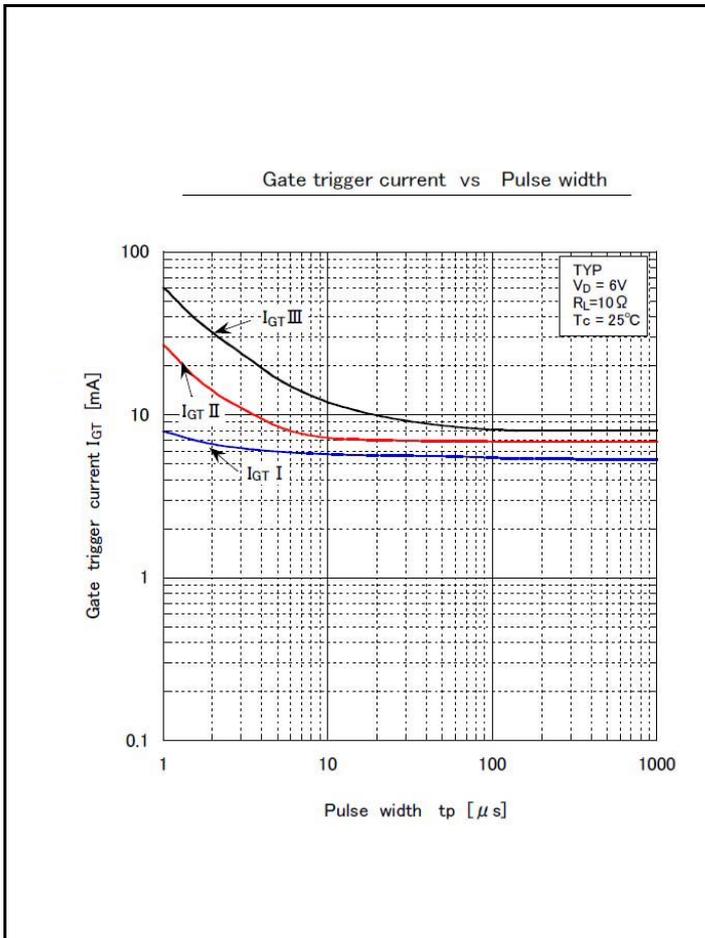
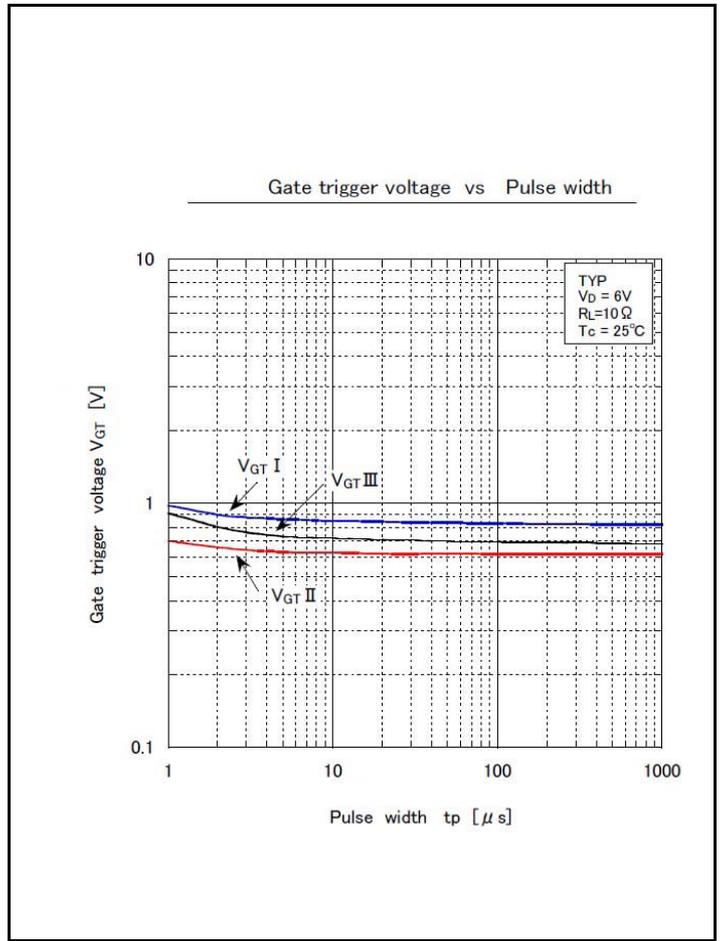
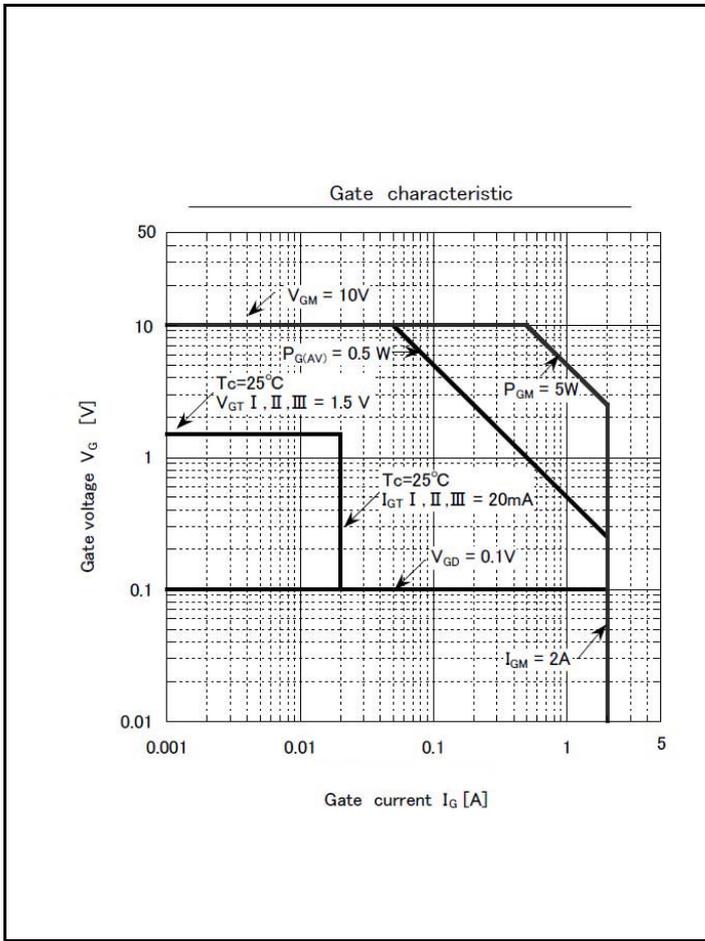
**Electrical Characteristics** (unless otherwise specified : Tc=25°C)

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=7A, Pulse measurement			1.8	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°C, VD=1/2VDRM	0.1			V
Gate trigger current	$I_{GTI}$	VD=6V, RL=10Ω, T1-, T2+, G+			20	mA
Gate trigger current	$I_{GTII}$	VD=6V, RL=10Ω, T1-, T2+, G-			20	mA
Gate trigger current	$I_{GTIII}$	VD=6V, RL=10Ω, T1+, T2-, G-			20	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°C, VD=2/3VDRM	100			V/μs
Critical rate of rise of commutating voltage	(dv/dt)c	Tj=150°C, VD=2/3VDRM, (di/dt)c=-2.5A/ms	1			V/μs
Thermal resistance	Rth(j-c)	Junction to case with heatsink			2.29	°C/W

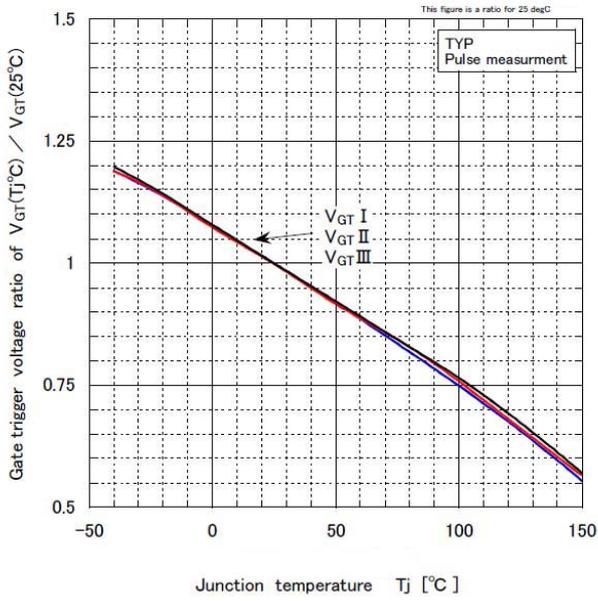
※ :See the original Specifications

# CHARACTERISTIC DIAGRAMS

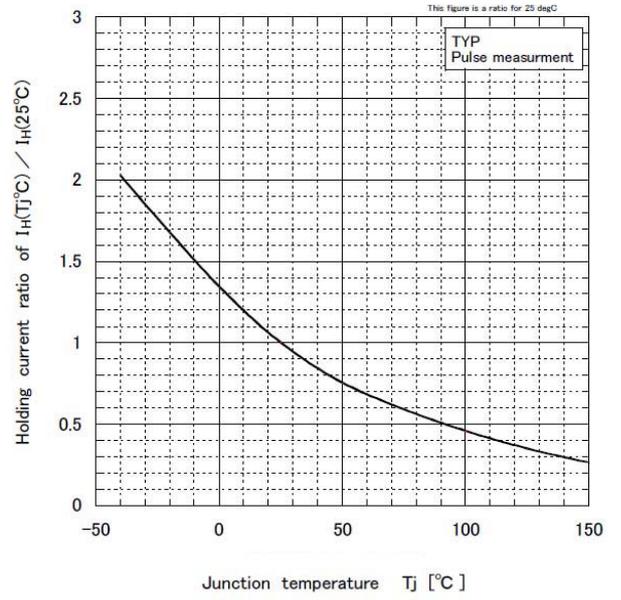




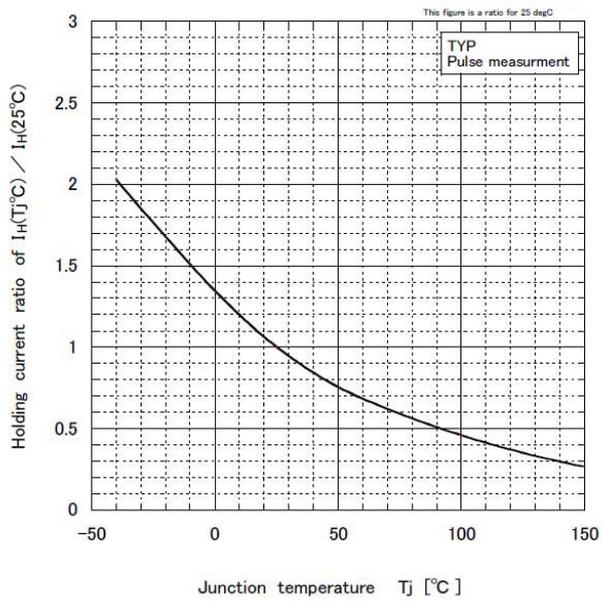
Gate trigger voltage vs Junction temperature



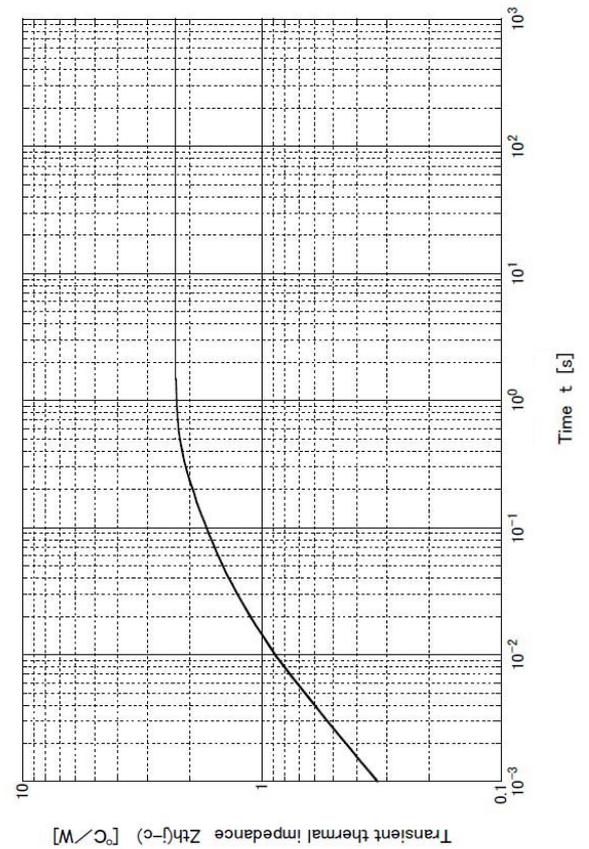
Holding current vs Junction temperature



Holding current vs Junction temperature

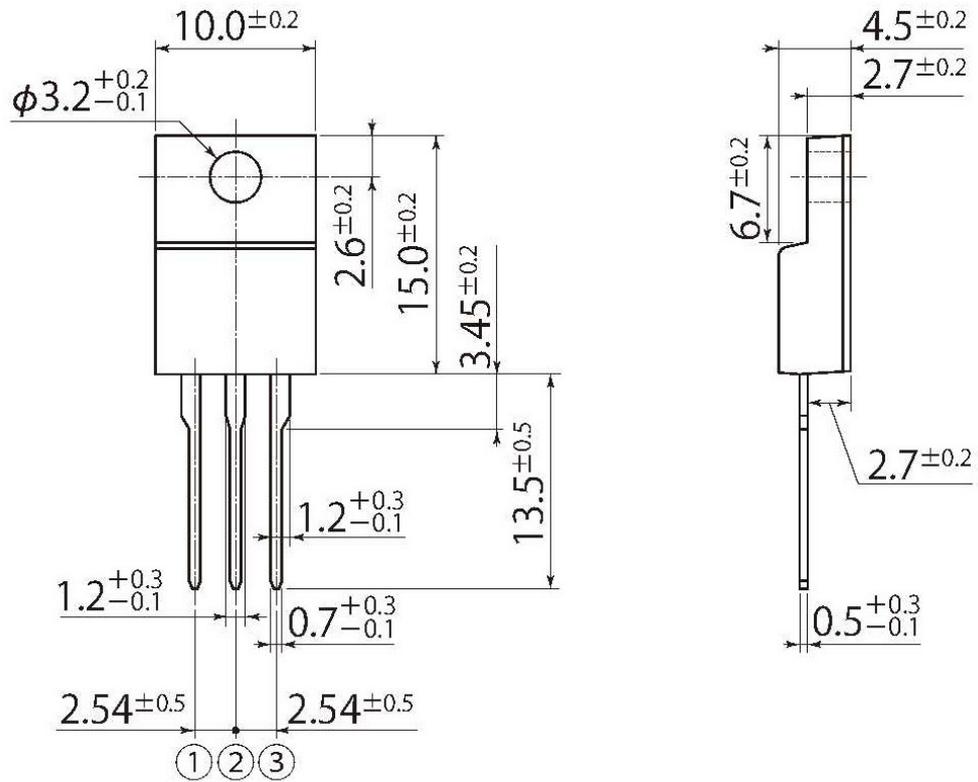


Transient thermal impedance



J8

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



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