ShinDengen

P10F60HP2

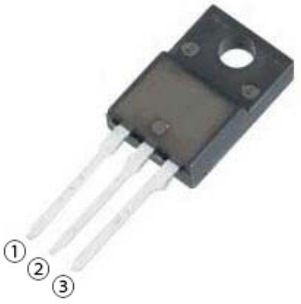
Power MOSFETs
600V, 10A, N-channel

Feature

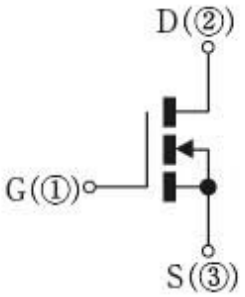
- N-channel
- High Voltage
- High Speed Switching
- Low Capacitance
- High Avalanche Durability, High di/dt Durability
- Pb free terminal
- RoHS:Yes

OUTLINE

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



Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	Tstg		-55 to 150	°C
Channel tempertature	Tch		150	°C
Drain-source voltage	V_{DSS}		600	V
Gate-source voltage	V_{GSS}		±30	V
Continuous drain current(DC)	I_D		10	A
Continuous drain current(Peak)	I_{DP}	Pulse width 10μs, duty=1/100	40	A
Continuous source current(DC)	Is		10	A
Total power dissipation	P_T		85	W
Repetitive avalanche current	I_{AR}	Starting Tch=25°C Tch≦150°C	10	A
Single avalanche energy	E_{AS}	Starting Tch=25°C Tch≦150°C	60	mJ
Repetitive avalanche energy	E_{AR}	Starting Tch=25°C Tch≦150°C	6	mJ
Drain - source diode di/dt strength	di/dt	Is=10A, Tc=25°C	350	A/μs
Dielectric strenght	Vdis	Terminals to case, AC1min	2	kV
Mounting torque	TOR	(Recommended torque：0.3N･m)	0.5	N･m

※ ：See the original Specifications

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

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Drain-Source breakdown voltage	$V_{(BR)DSS}$	ID=1mA, VGS=0V	600			V
Zero gate voltage drain current	I_{DSS}	VDS=600V, VGS=0V			100	μA
Gate-source leakage current	I_{GSS}	VGS=±30V, VDS=0V			±0.1	μA
Forward transconductance	g_{fs}	ID=5A, VDS=10V	6	12		S
Static drain-source on-state resistance	$R_{DS(ON)}$	ID=5A, VGS=10V		0.67	0.8	Ω
Gate threshold voltage	Vth	ID=1mA, VDS=10V	3	3.75	4.5	V
Source-drain diode forward voltage	V_{SD}	IS=5A, VGS=0V			1.5	V
Thermal resistance	Rth(j-c)	Junction to case			1.47	°C/W
Total gate charge	Qg	VDD=400V, VGS=10V, ID=10A		23		nC
Input capacitance	Ciss	VDS=50V, VGS=0V, f=1MHz		1040		pF
Reverce transfer capacitnce	Crss	VDS=50V, VGS=0V, f=1MHz		6		pF
Output capacitance	Coss	VDS=50V, VGS=0V, f=1MHz		100		pF
Turn-on delay time	td(on)	ID=5A, RL=30Ω, VDD=150V, Rg=50Ω, VGS(+)=10V, VGS(-)=0V		24		ns
Rise time	tr	ID=5A, RL=30Ω, VDD=150V, Rg=50Ω, VGS(+)=10V, VGS(-)=0V		27		ns
Turn-off delay time	td(off)	ID=5A, RL=30Ω, VDD=150V, Rg=50Ω, VGS(+)=10V, VGS(-)=0V		82		ns
Fall time	tf	ID=5A, RL=30Ω, VDD=150V, Rg=50Ω, VGS(+)=10V, VGS(-)=0V		25		ns

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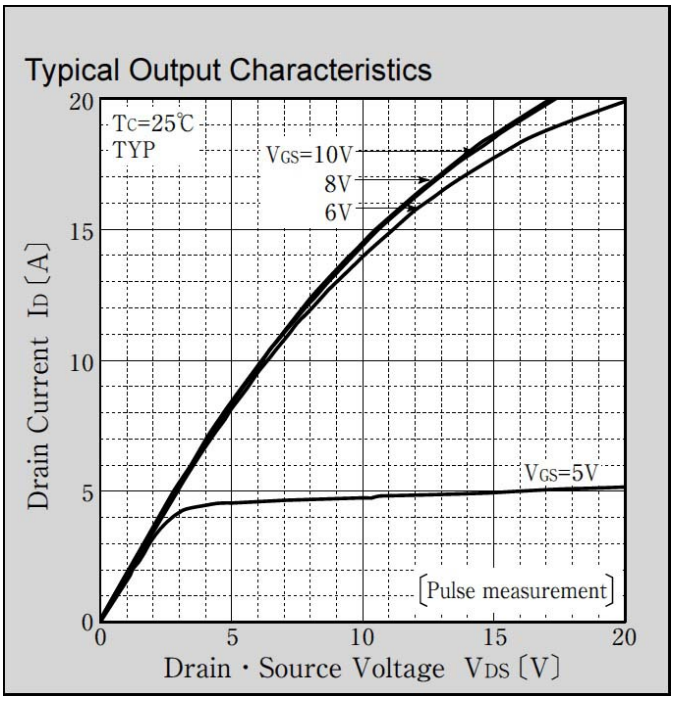
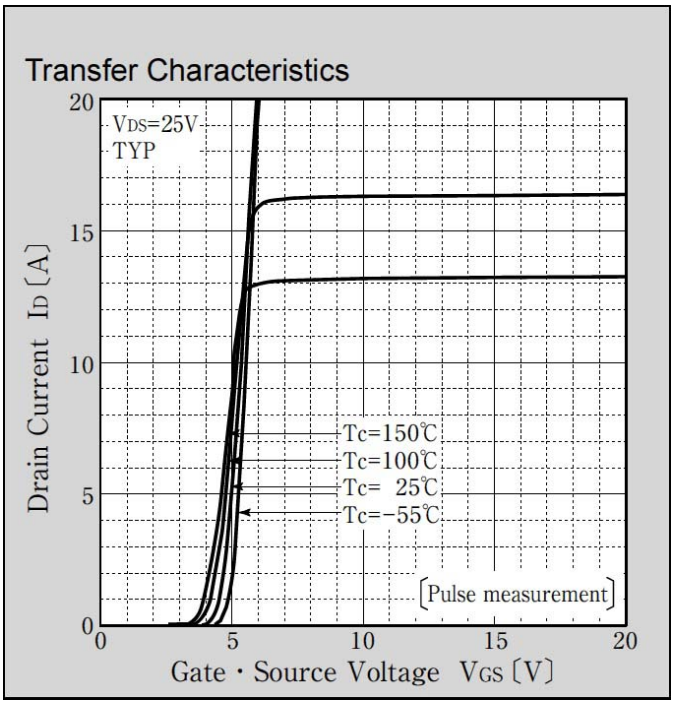
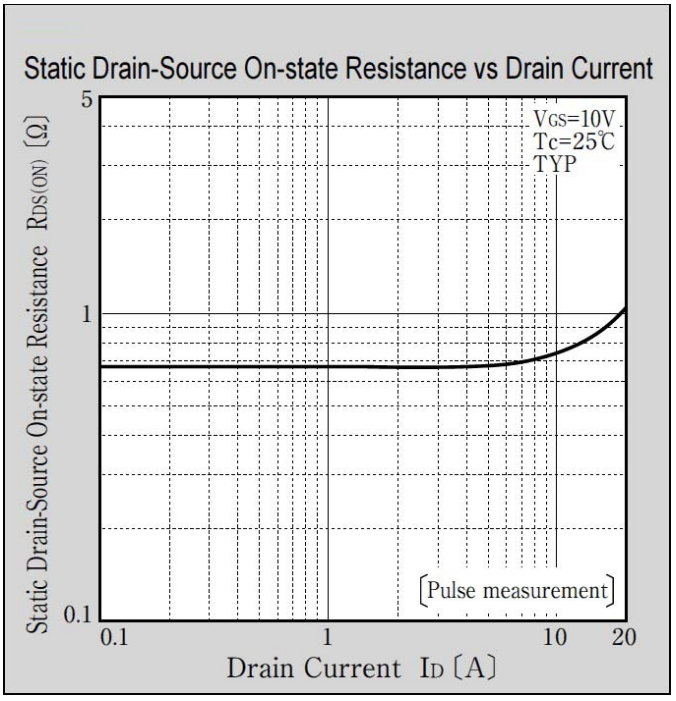
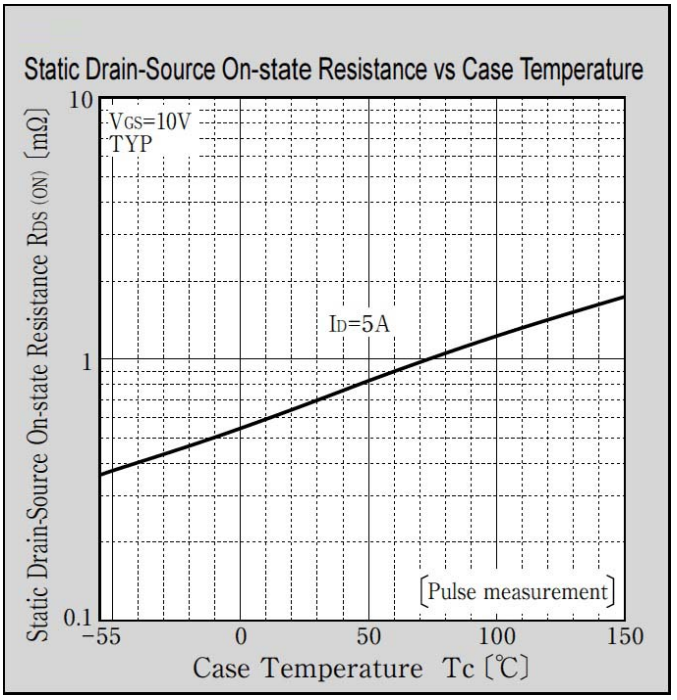
CHARACTERISTIC DIAGRAMS









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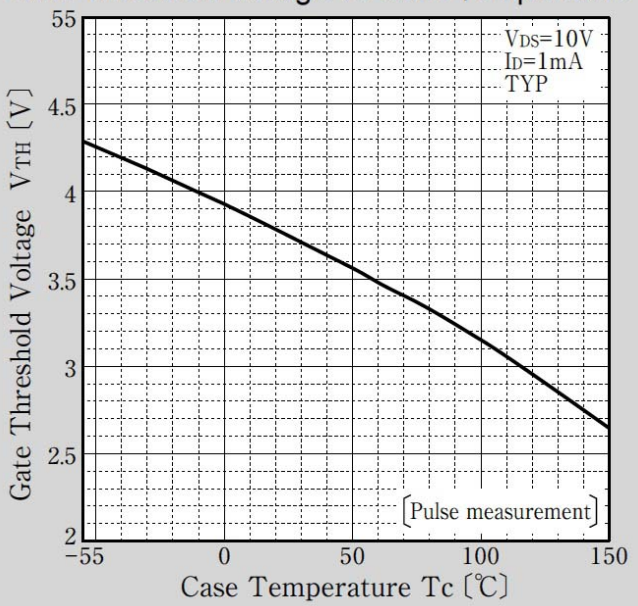
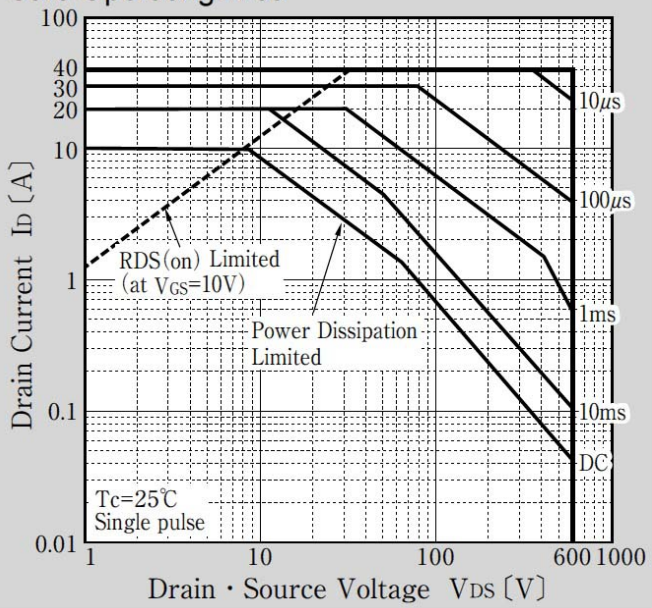
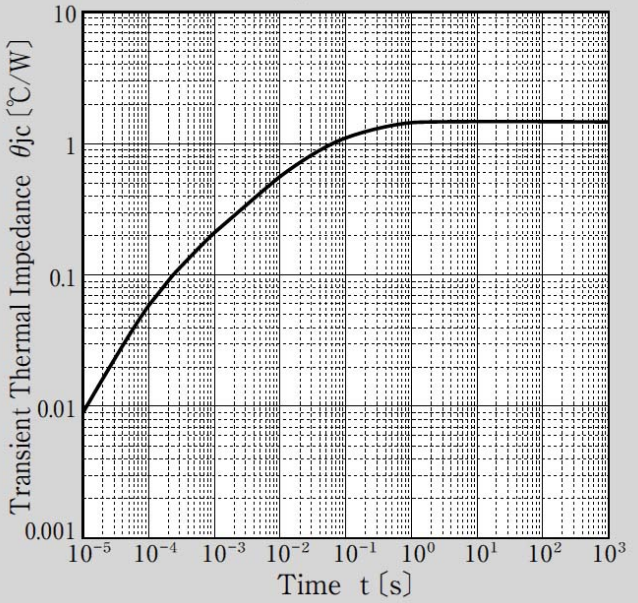
Gate Threshold Voltage vs Case Temperature



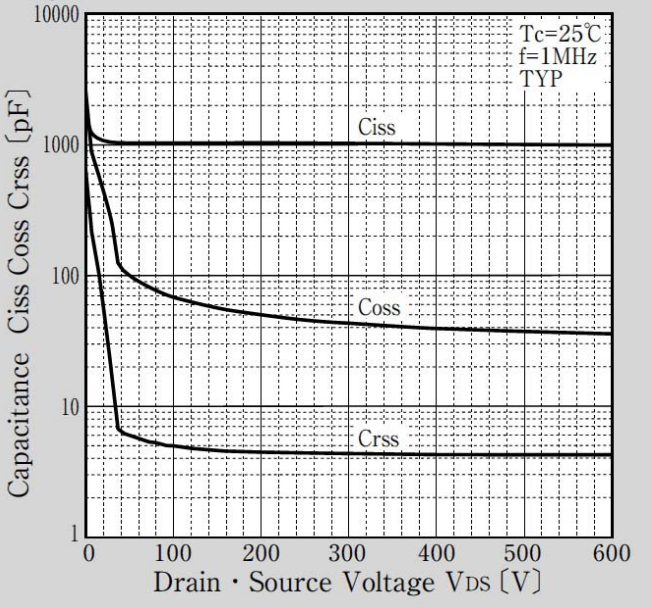
Safe Operating Area



Transient Thermal Impedance



Capacitance Characteristics



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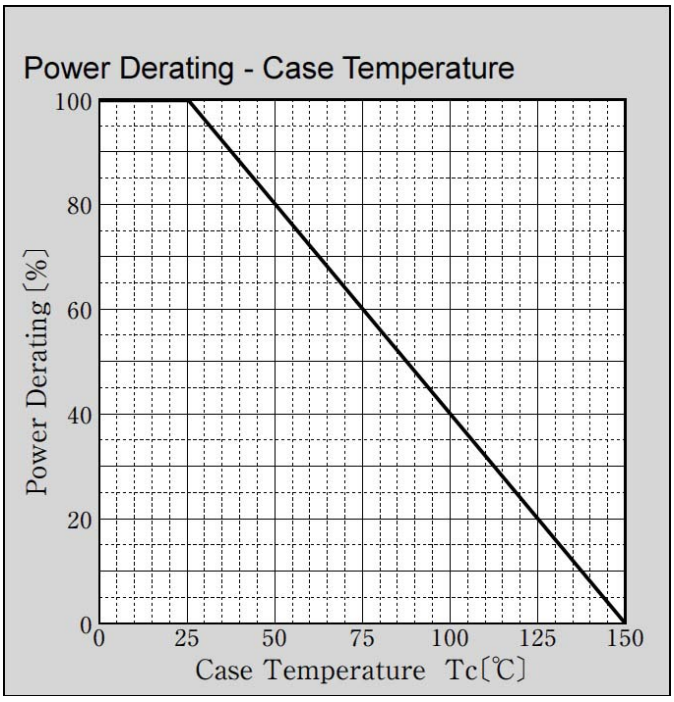

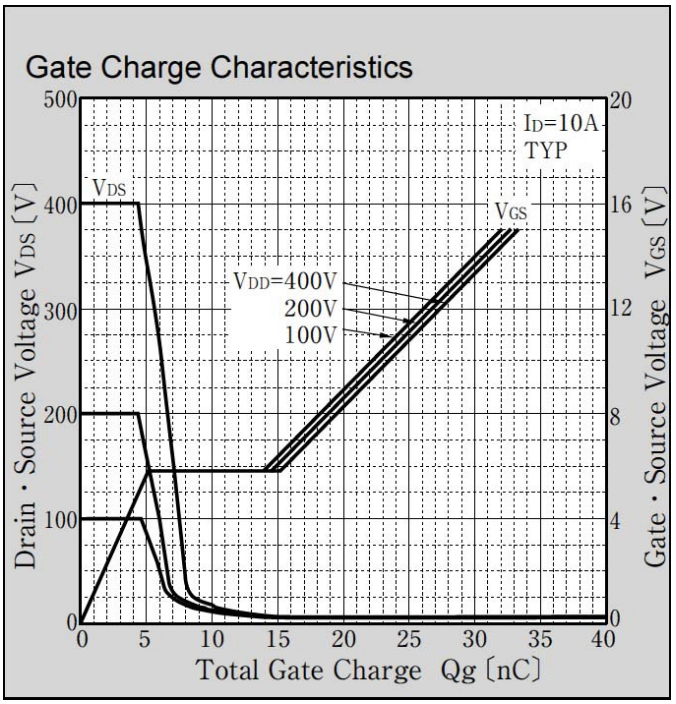

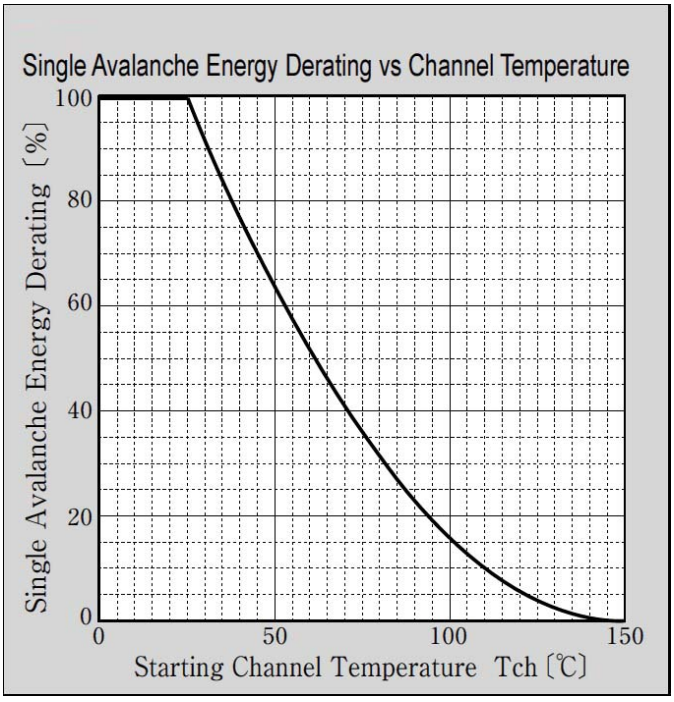

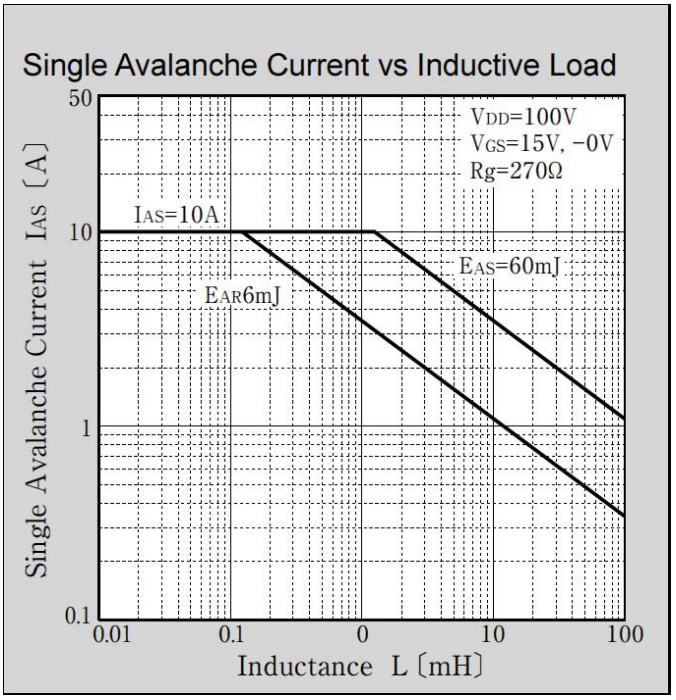

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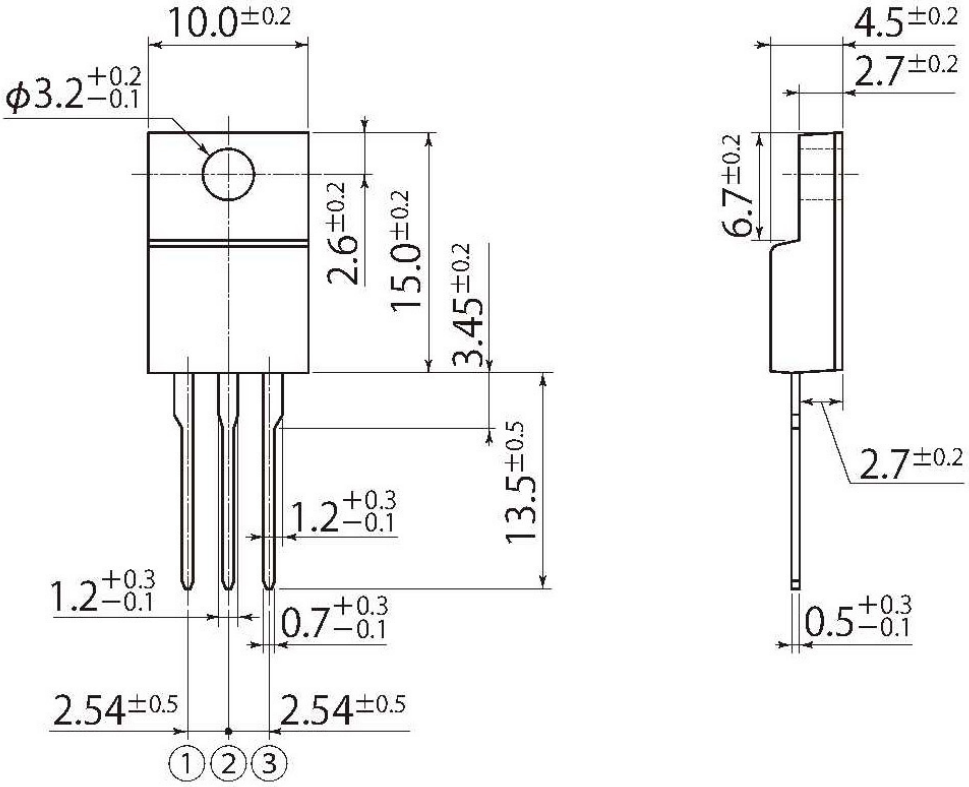
Outline Dimensions

unit:mm

J8

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



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