

KC3FB40H

Thyristors

400V, 3A

Feature

- Small SMD
- tq guaranteed
- High Sensitivity
- Pb free terminal
- RoHS:Yes

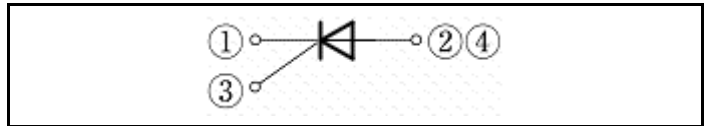
OUTLINE

Package (House Name): FB

Package (JEDEC Code): TO-252AA



Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	T _{stg}		-55 to 150	°C
Junction temperature	T _j		-40 to 125	°C
non-Repetitive peak off-state voltage	V _{DSM}	RGK=1KΩ	500	V
non-Repetitive peak reverse voltage	V _{RSM}	RGK=1KΩ	500	V
Repetitive peak off-state voltage	V _{DRM}	RGK=1KΩ	400	V
Repetitive peak reverse voltage	V _{RRM}	RGK=1KΩ	400	V
Average on-state Current	I _{T(AV)}	Tc=111°C, 50Hz sine wave, θ=180°	3	A
On-state current (r.m.s.)	I _{T(RMS)}	Tc=113°C, 50Hz sine wave, θ=180°	4	A
Peak surge on-state current	I _{TSM}	Tj=25°C, 50Hz sine wave, θ=180°, Non repetitive	40	A
Current squared time	I ² t	Tj=25°C, 1ms ≤ t ≤ 10ms, Non repetitive	8	A ² s
Peak gate dissipation	P _{FGM}	f ≥ 50Hz, Duty ≤ 10%	1	W
Average gate dissipation	P _{FG(AV)}		0.2	W
Peak gate forward current	I _{FGM}	f=50Hz, Duty ≤ 10%	0.5	A
Peak gate reverse voltage	V _{RGM}		6	V
Critical rate of rise of on-state current	di/dt		50	A/μs

* : See the original Specifications

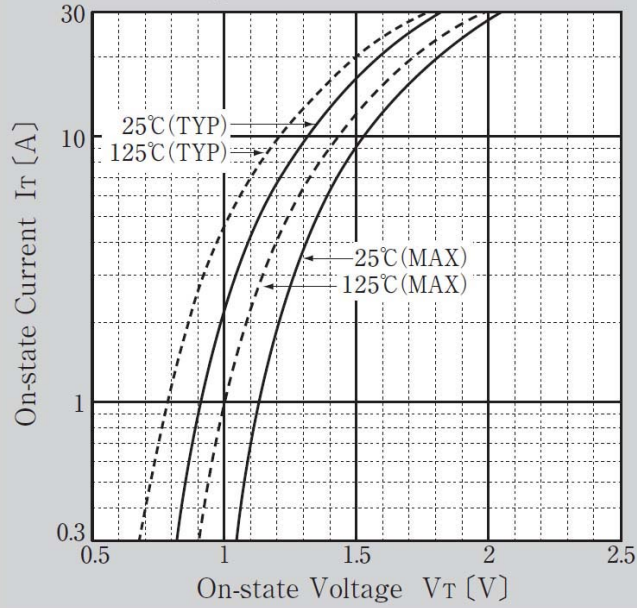
Electrical Characteristics (unless otherwise specified : T_c=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Repetitive off-state current	I _{DRM}	VD=400V, RGK=1kΩ, Pulse measurement			50	μA
Repetitive reverse current	I _{RRM}	VR=400V, RGK=1kΩ, Pulse measurement			50	μA
On-state voltage	V _{TM}	ITM=4A, Pulse measurement			1.4	V
Gate trigger voltage	V _{GT}	VD=6V, RL=100Ω			0.8	V
Gate trigger current	I _{GT}	VD=6V, RL=100Ω			100	μA
Gate non-trigger voltage	V _{GD}	T _j =125°C, VD=1/2V _{DRM} , RGK=1kΩ	0.2			V
Holding Current	I _H	ITM=5A, RGK=1kΩ			5	mA
Critical rate of rise of off-state voltage	dVD/dt	T _j =125°C, VD=270V, RGK=1kΩ		16		V/μs
Turn-off time	t _q	T _j =125°C, ITM=2A, VR≥25V, diR/dt=15A/μs, VD=2/3V _{DRM} , RGK=1kΩ		18		μs
Thermal Resistance	R _{th(j-c)}	Junction to case			3	°C/W

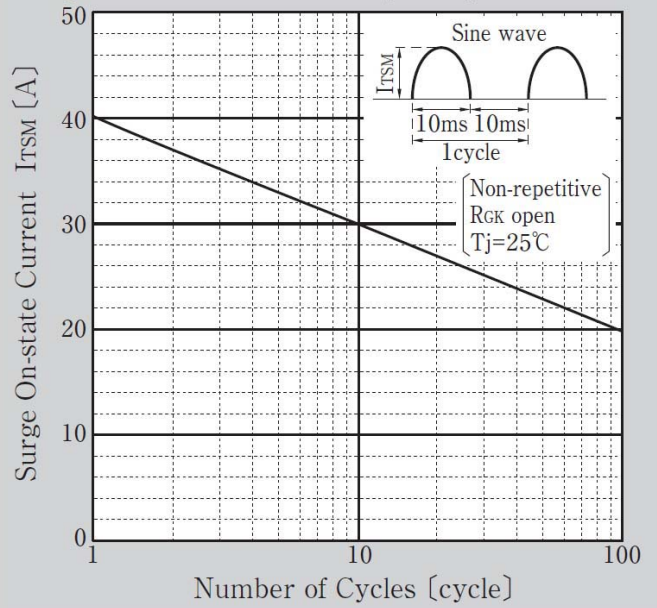
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

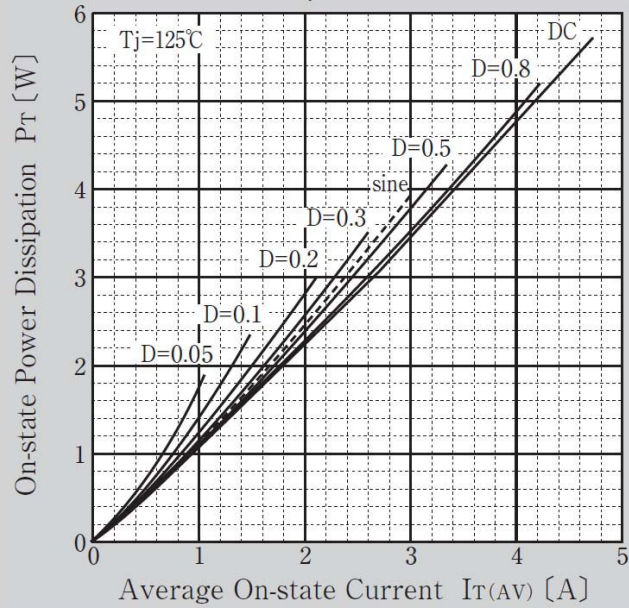
On-state Voltage vs On-state Current



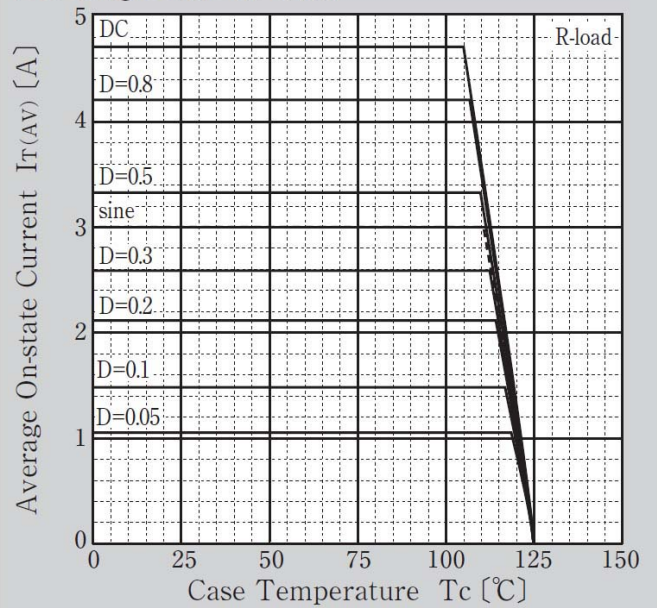
Surge On-state Current Capability

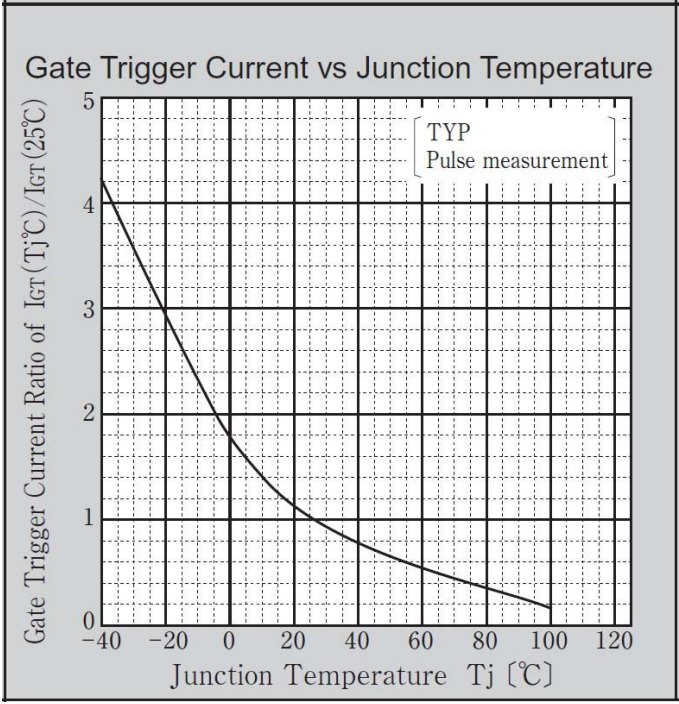
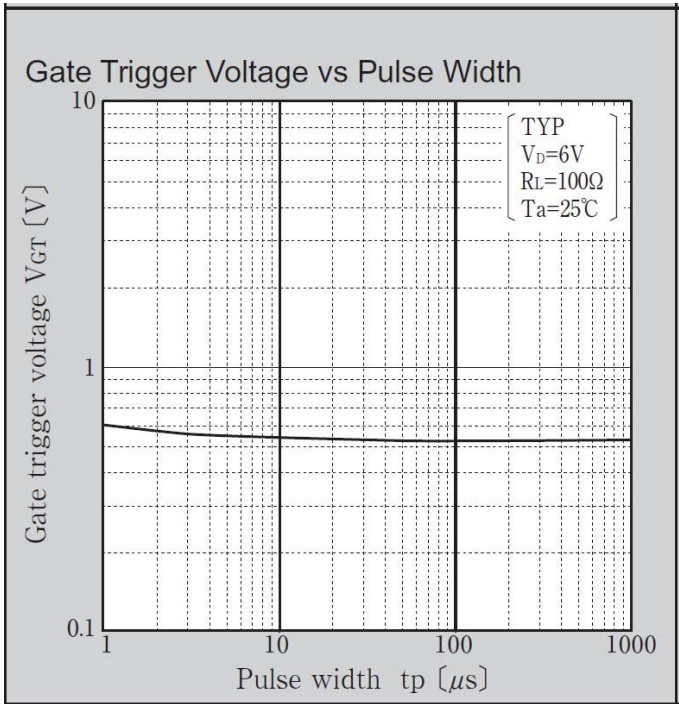
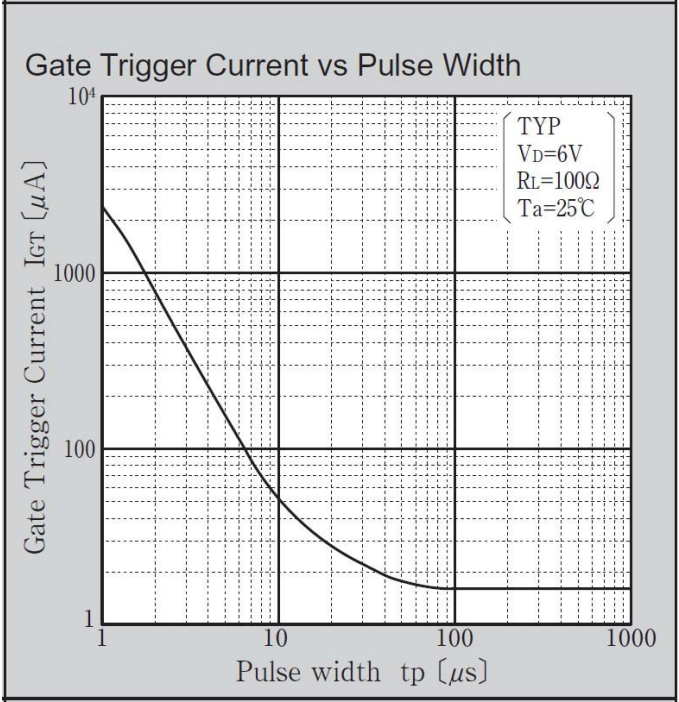
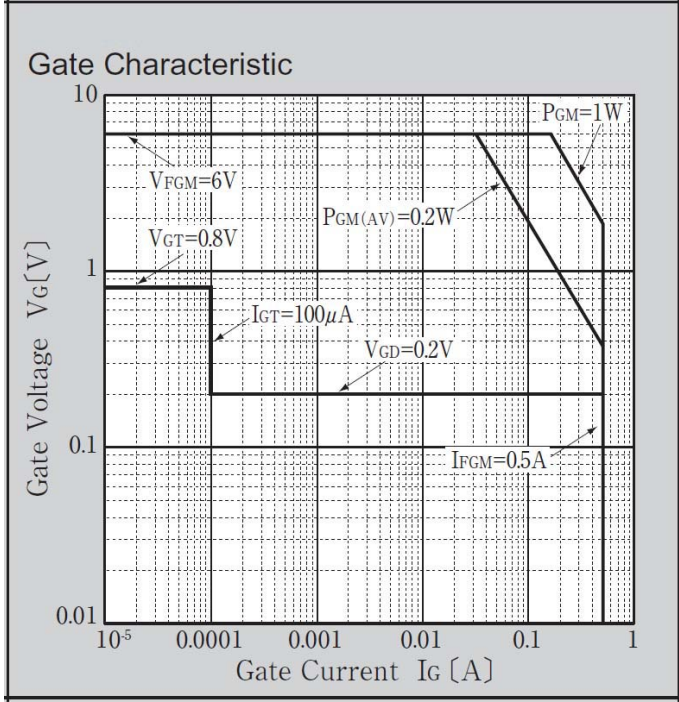


On-state Power Dissipation

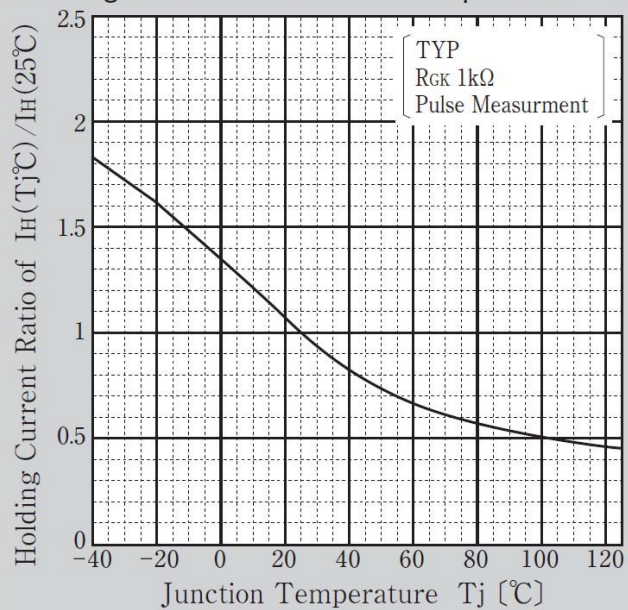


Derating Curve T_c-I_{T(AV)}

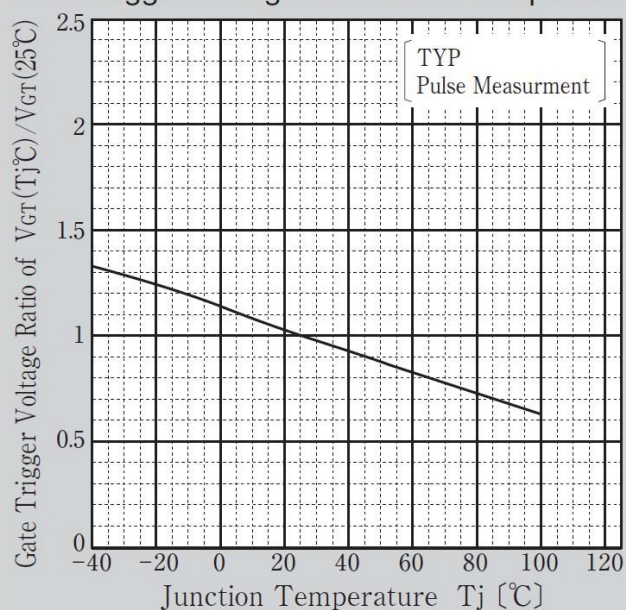




Holding Current vs Junction Temperature

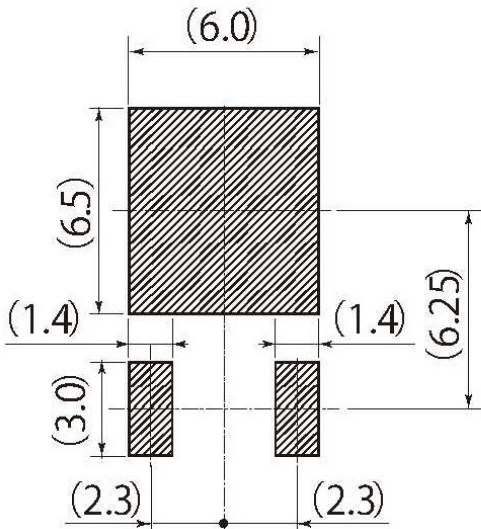
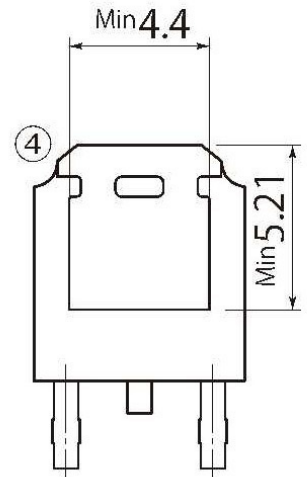
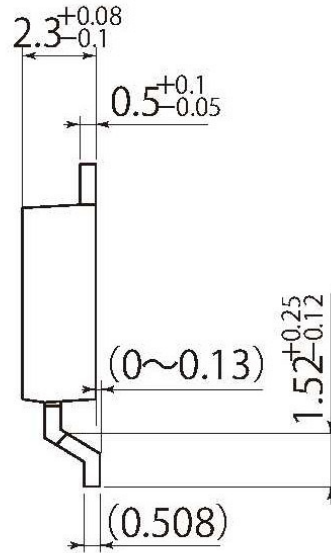
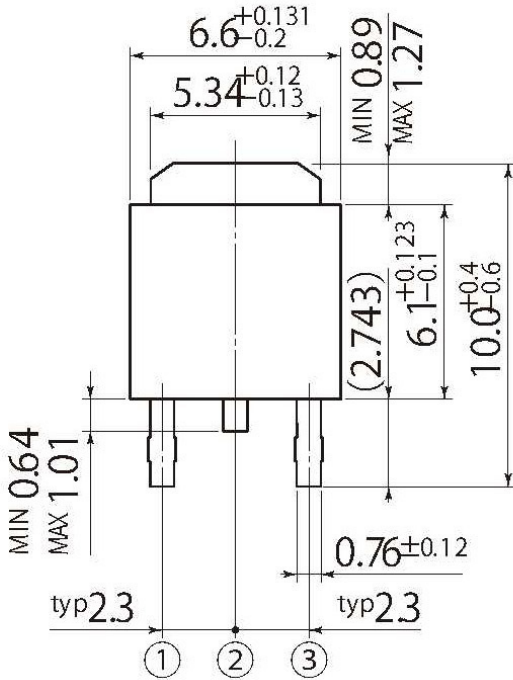


Gate Trigger Voltage vs Junction Temperature



G2

JEDEC Code	TO-252AA
JEITA Code	-
House Name	FB



Referential Soldering Pad

• Optimize soldering pad to the board design and soldering condition.

Notes

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