

KC3FB40H

Thyristors

400V, 3A

Feature

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

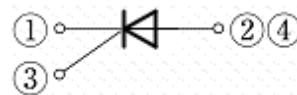
OUTLINE

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

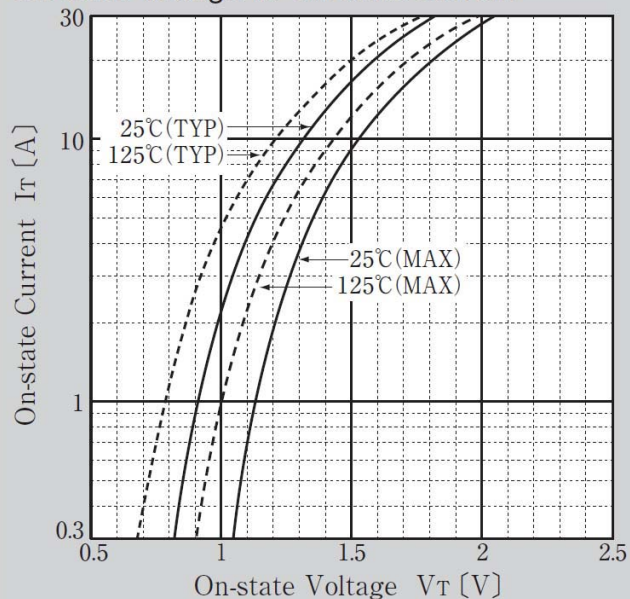
Electrical Characteristics (unless otherwise specified : Tc=25°C)

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}	Tj=125°C, VD=1/2VDRM, 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	Tj=125°C, VD=270V, RGK=1kΩ		16		V/μs
Turn-off time	tq	Tj=125°C, ITM=2A, VR≥25V, diR/dt=15A/μs, VD=2/3VDRM, RGK=1kΩ		18		μs
Thermal Resistance	Rth(j-c)	Junction to case			3	°C/W

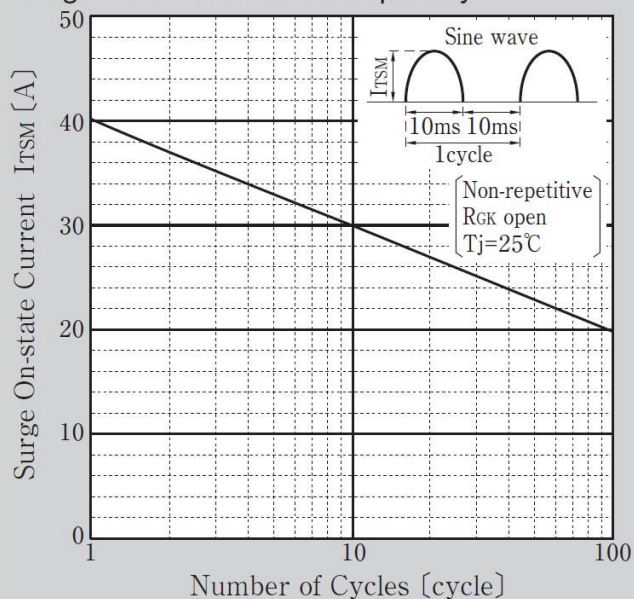
※ : See the original Specifications

CHARACTERISTIC DIAGRAMS

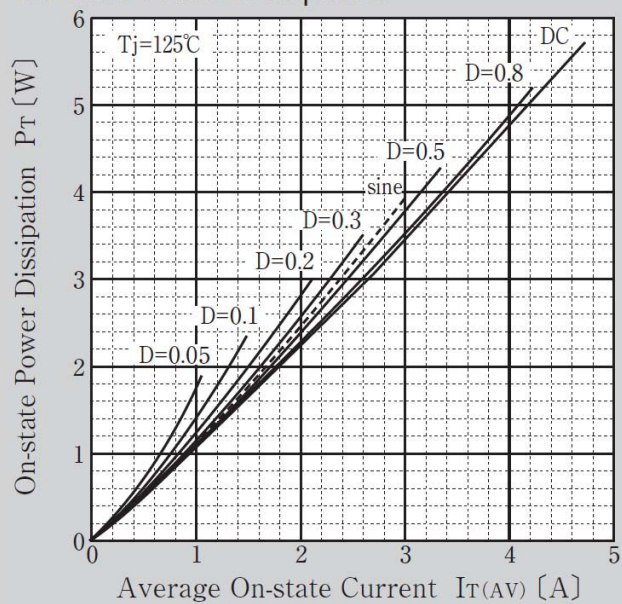
On-state Voltage vs On-state Current



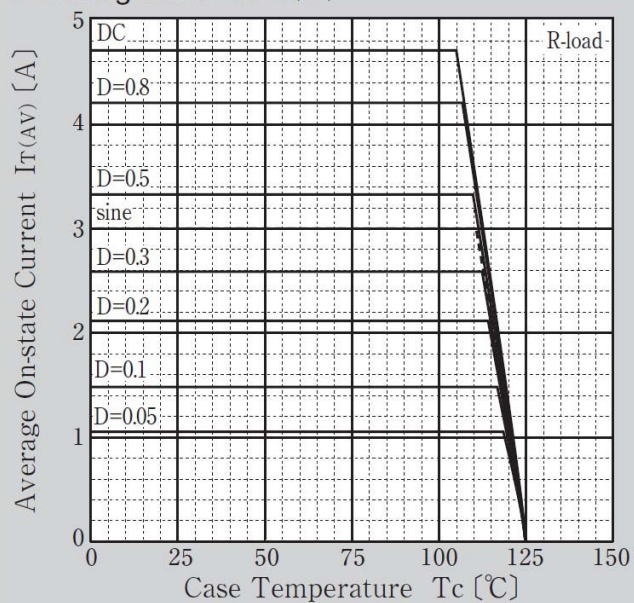
Surge On-state Current Capability



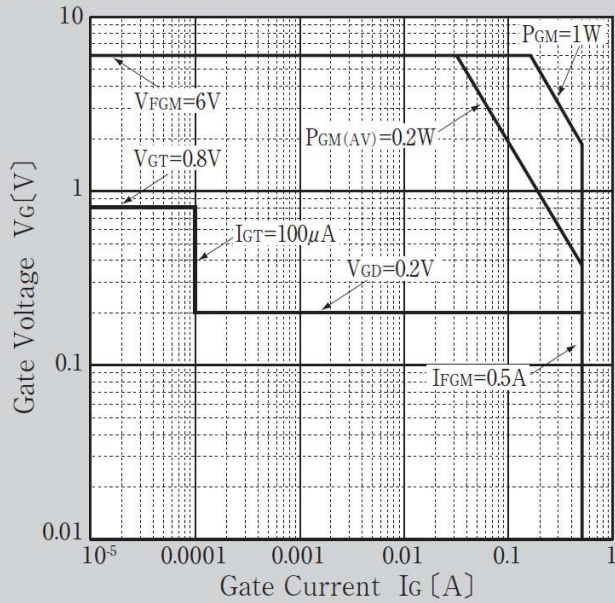
On-state Power Dissipation



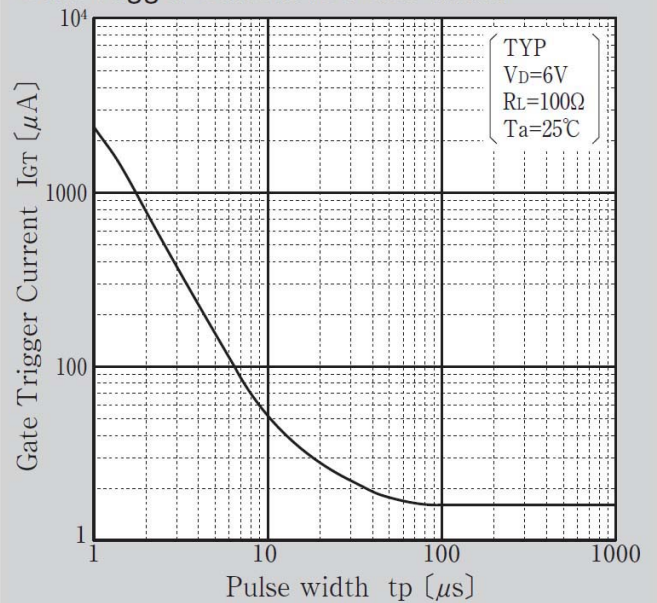
Derating Curve T_c - $I_{T(AV)}$



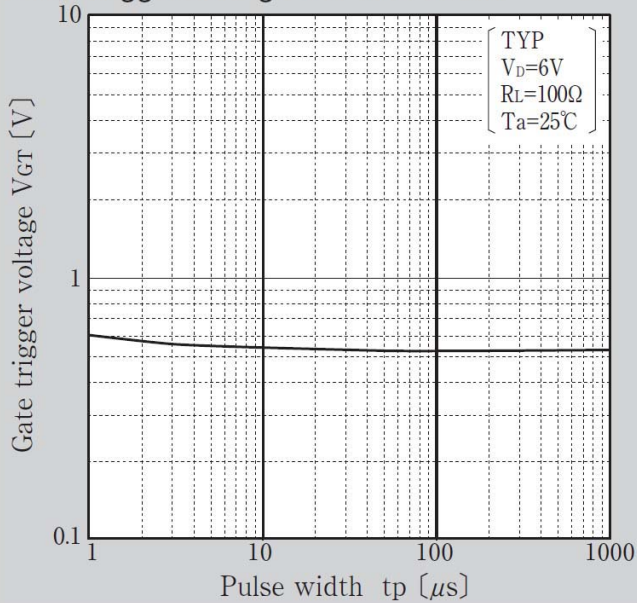
Gate Characteristic



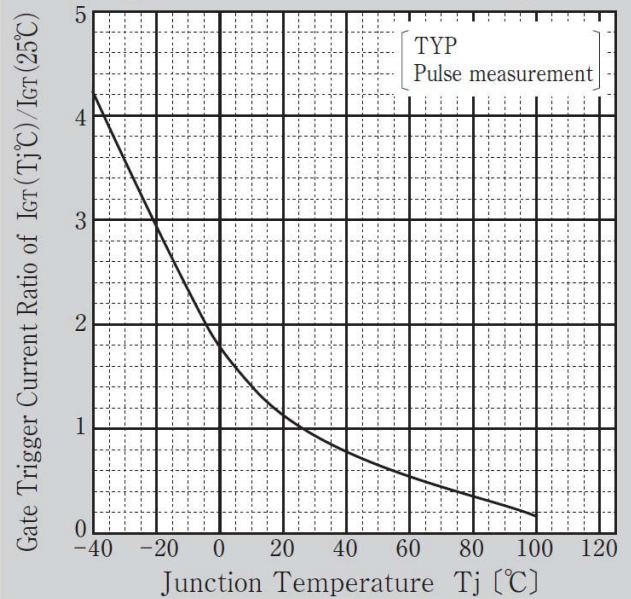
Gate Trigger Current vs Pulse Width



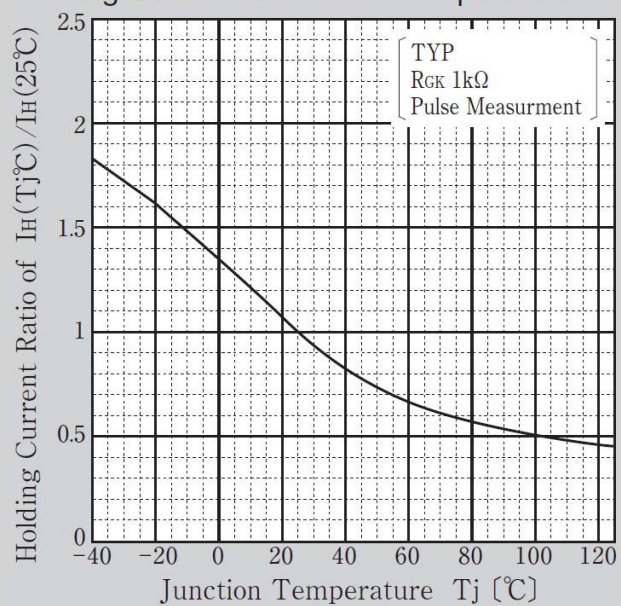
Gate Trigger Voltage vs Pulse Width



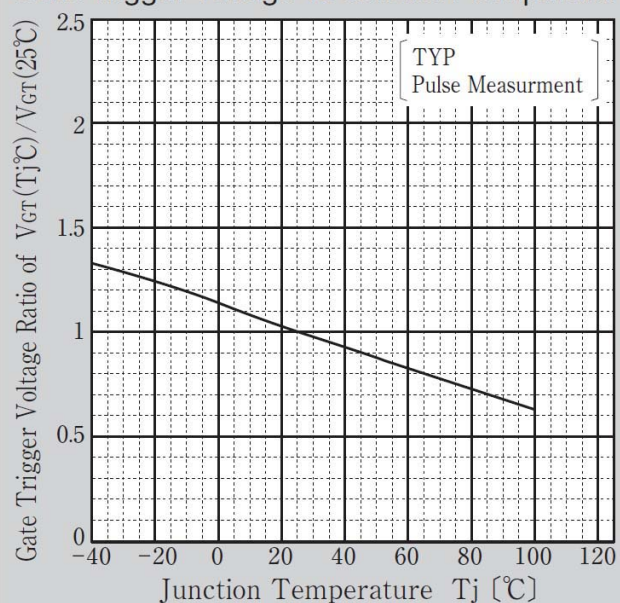
Gate Trigger Current vs Junction Temperature



Holding Current vs Junction Temperature

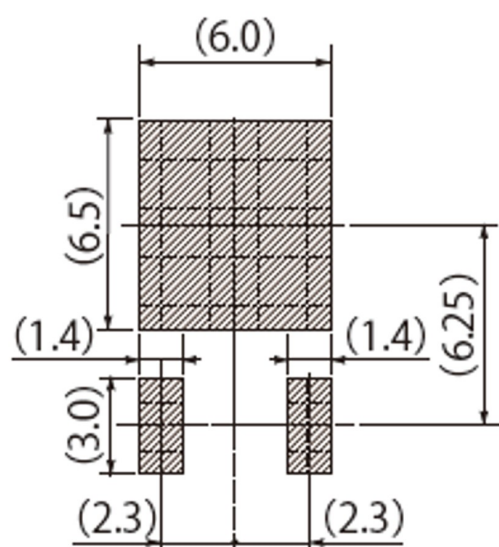
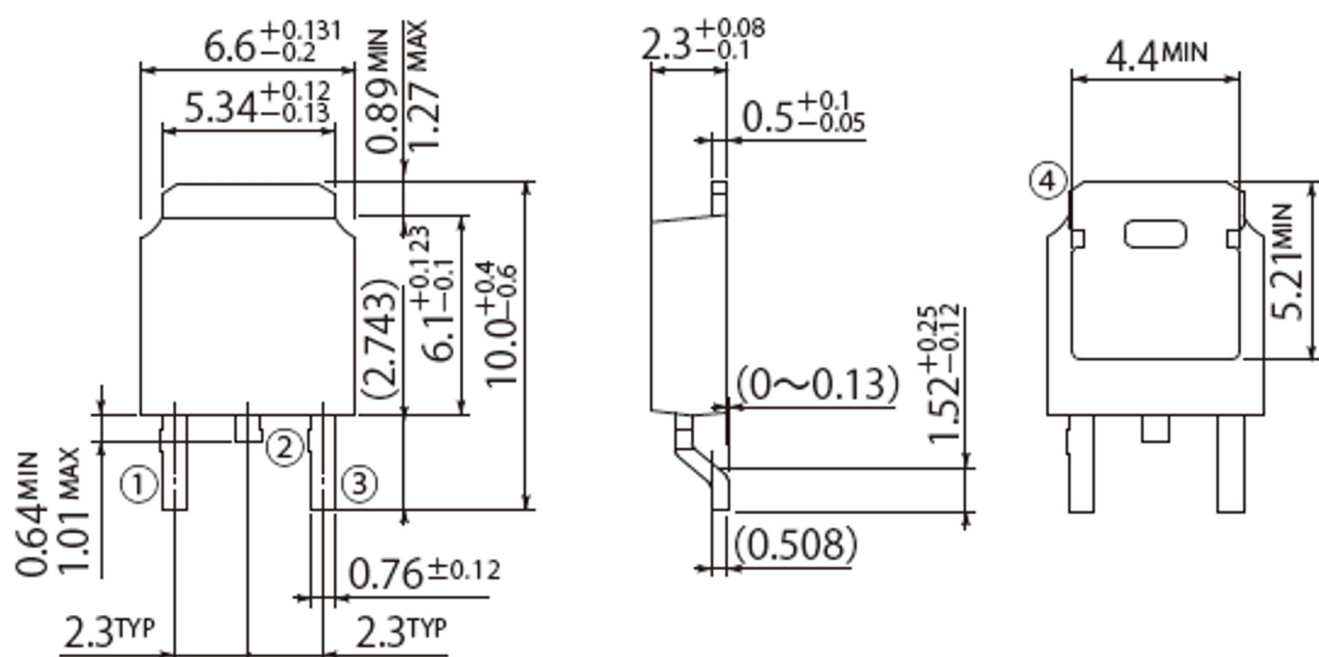


Gate Trigger Voltage vs Junction Temperature



G2

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



Referential Soldering Pad

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