

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

※ : See the original Specifications

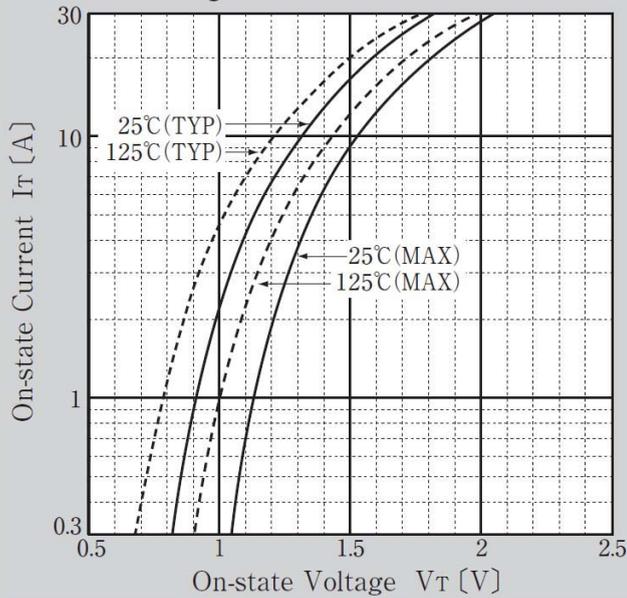
**Electrical Characteristics** (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Repetitive off-state current	I <sub>DRM</sub>	VD=400V, RGK=1kΩ, Pulse measurement			50	μA
Repetitive reverse current	I <sub>RRM</sub>	VR=400V, RGK=1kΩ, Pulse measurement			50	μA
On-state voltage	V <sub>TM</sub>	ITM=4A, Pulse measurement			1.4	V
Gate trigger voltage	V <sub>GT</sub>	VD=6V, RL=100Ω			0.8	V
Gate trigger current	I <sub>GT</sub>	VD=6V, RL=100Ω			100	μA
Gate non-trigger voltage	V <sub>GD</sub>	Tj=125°C, VD=1/2VDRM, RGK=1kΩ	0.2			V
Holding Current	I <sub>H</sub>	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

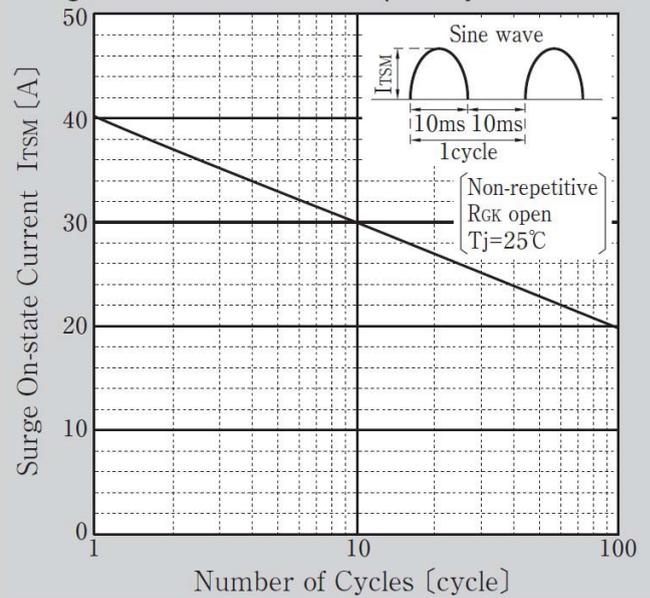
※ : See the original Specifications

# CHARACTERISTIC DIAGRAMS

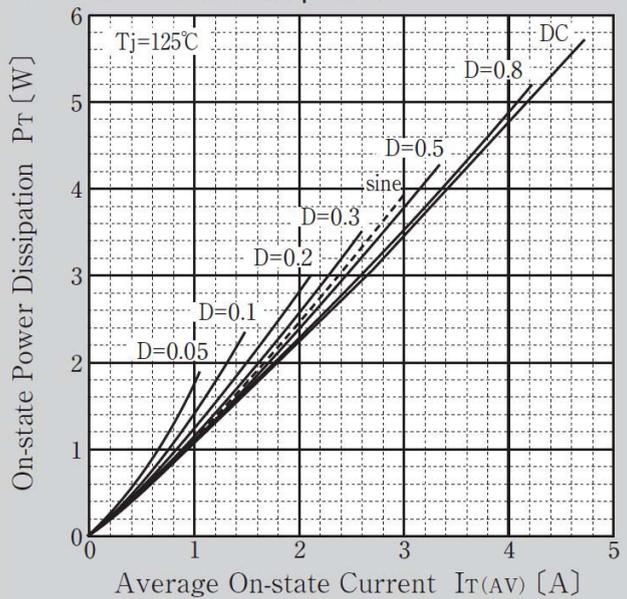
### On-state Voltage vs On-state Current



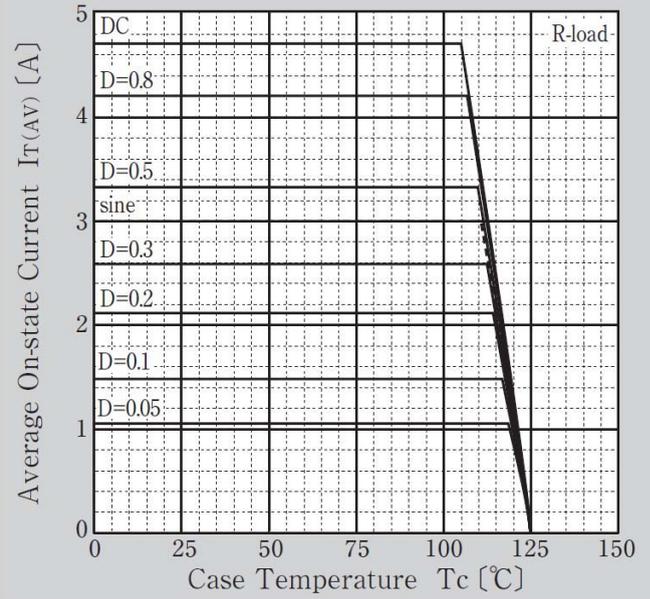
### Surge On-state Current Capability

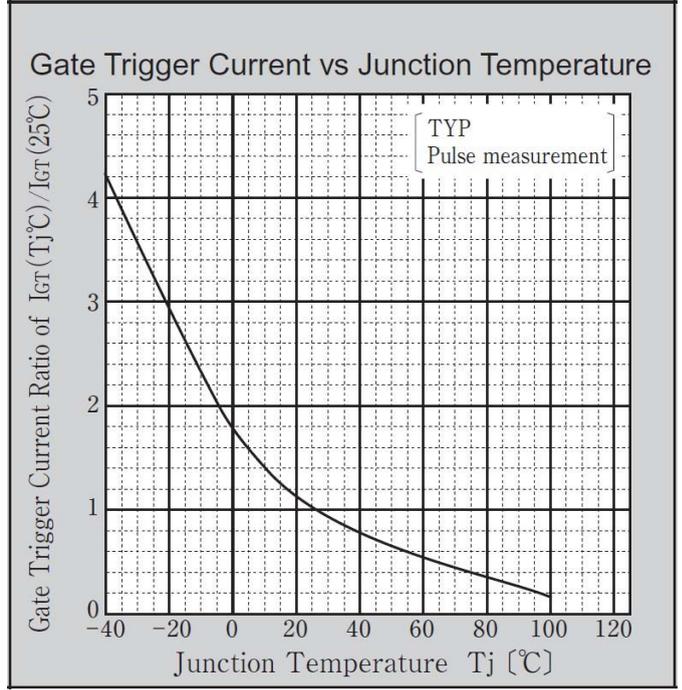
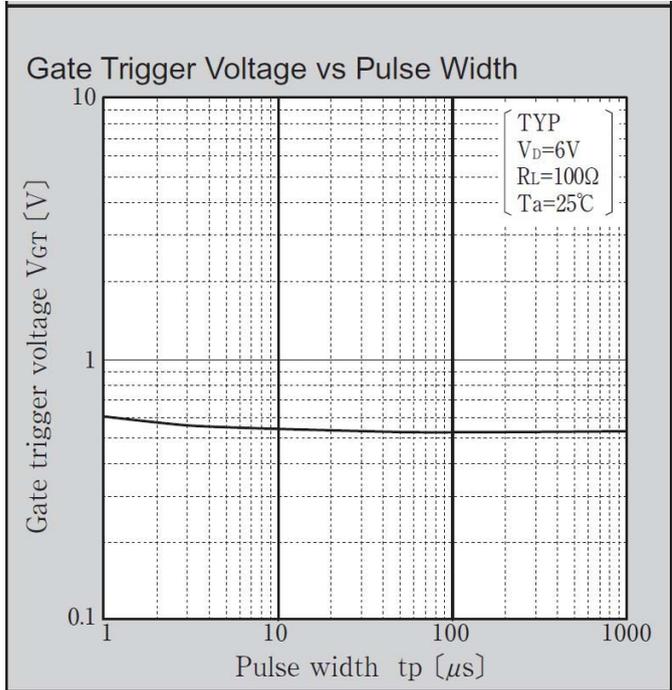
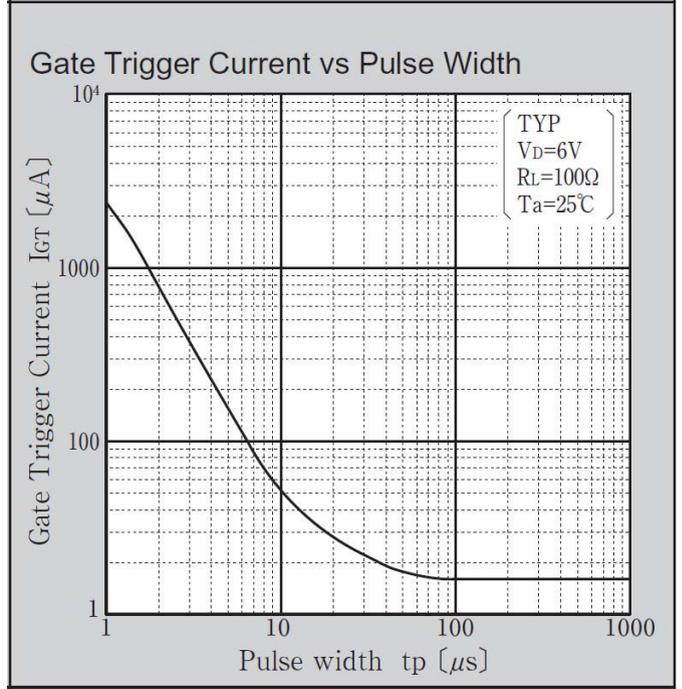
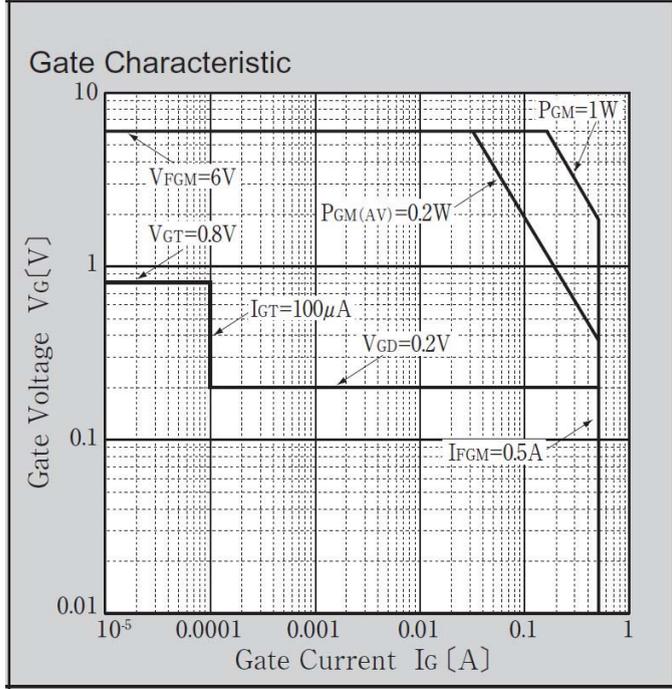


### On-state Power Dissipation

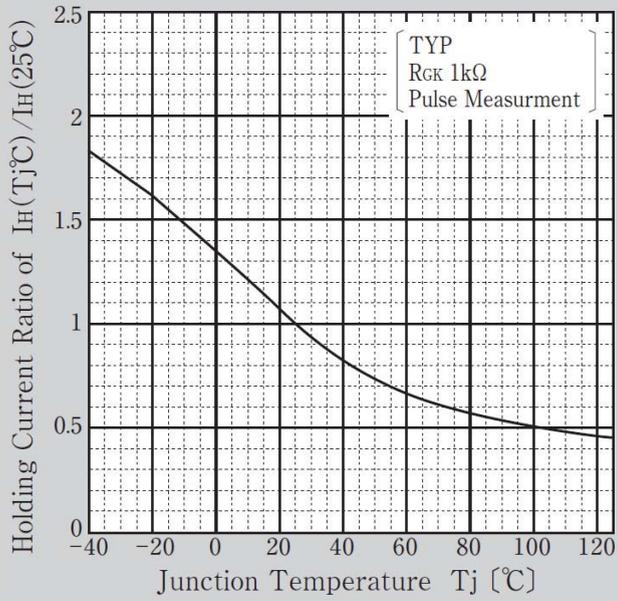


### Derating Curve $T_c$ - $I_{T(AV)}$

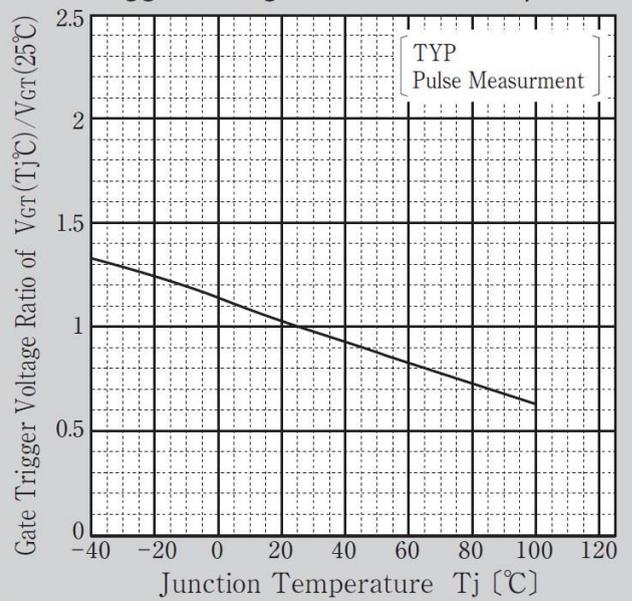




### Holding Current vs Junction Temperature



### Gate Trigger Voltage vs Junction Temperature

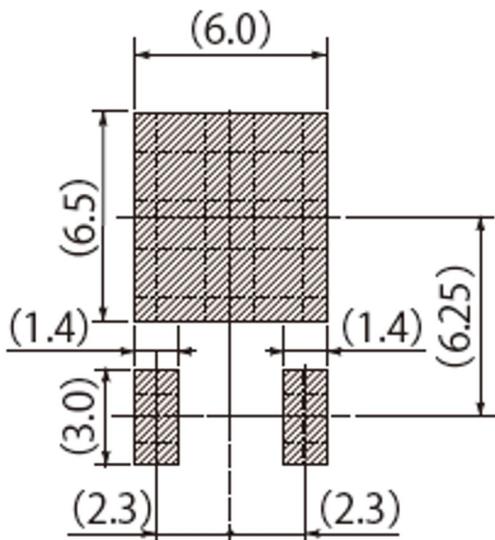
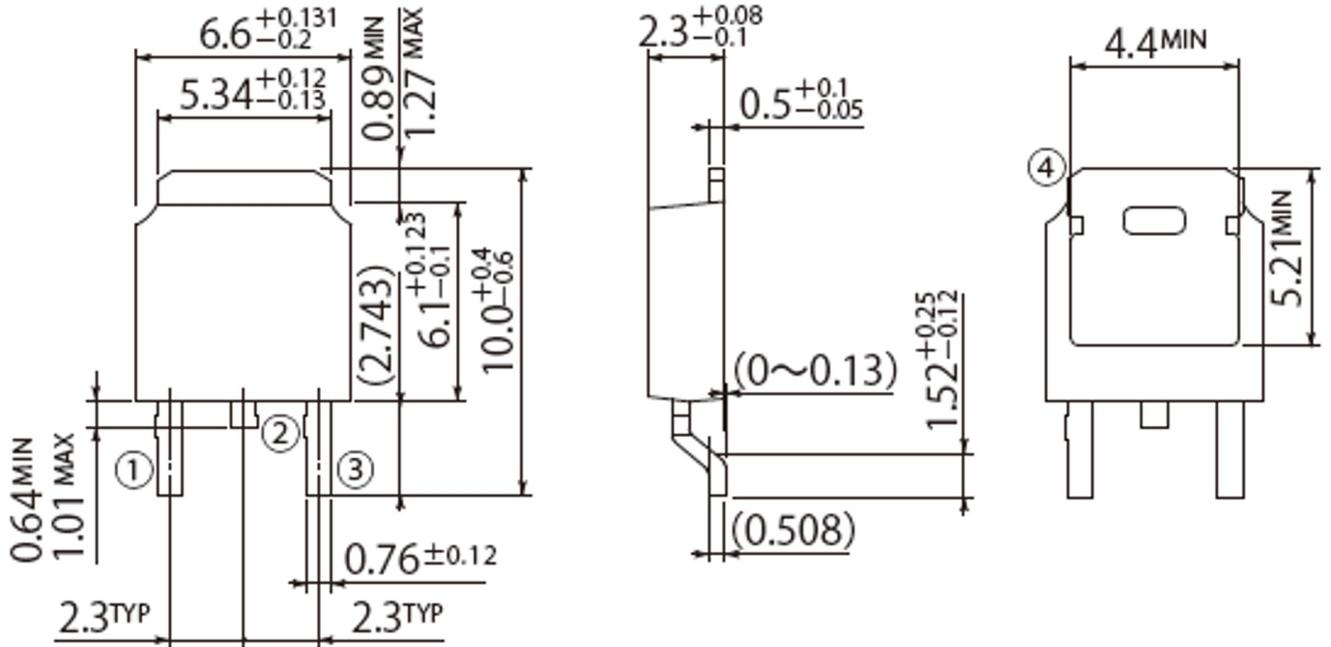


# Outline Dimensions

unit:mm

G2

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



Referential Soldering Pad

## Notes

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