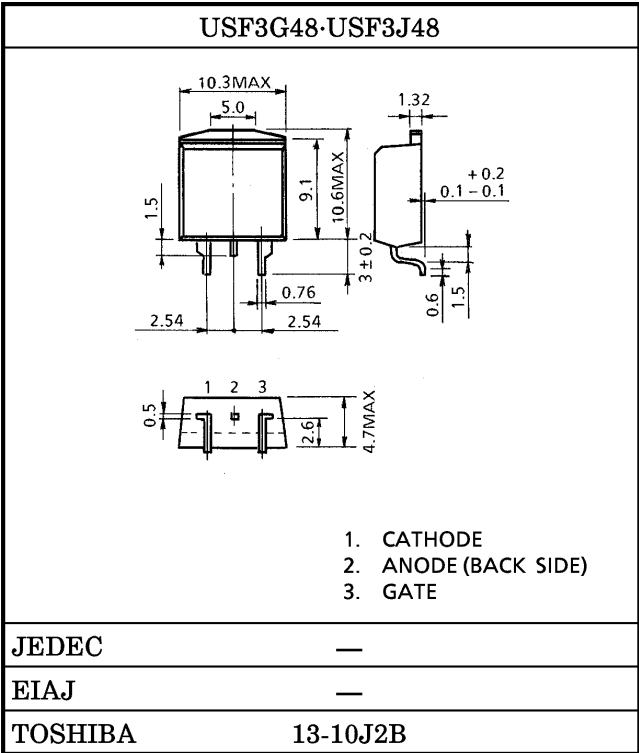
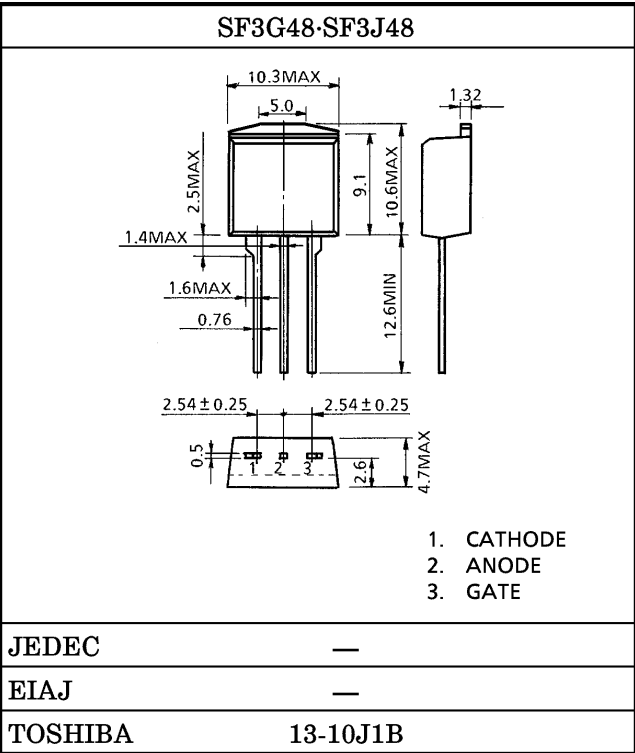


SF3G48, SF3J48, USF3G48, USF3J48

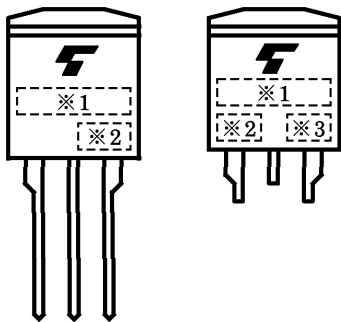
MEDIUM POWER CONTROL APPLICATIONS

- Repetitive Peak Off-State Voltage : V_{DRM}
- Repetitive Peak Reverse Voltage : V_{RRM}
- Average On-State Current : $I_T(AV)=3A$
- Gate Trigger Current : $I_{GT}=10mA \text{ MAX.}$



Weight : 1.7 g

MARKING



※ 1	MARK	F3G48	TYPE NAME	SF3G48, USF3G48
		F3J48		SF3J48, USF3J48
※ 2	Lot Number			
	←Month (Starting from Alphabet A) ↑ ←Year (Last Decimal Digit of the Current Year)			

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MAXIMUM RATINGS

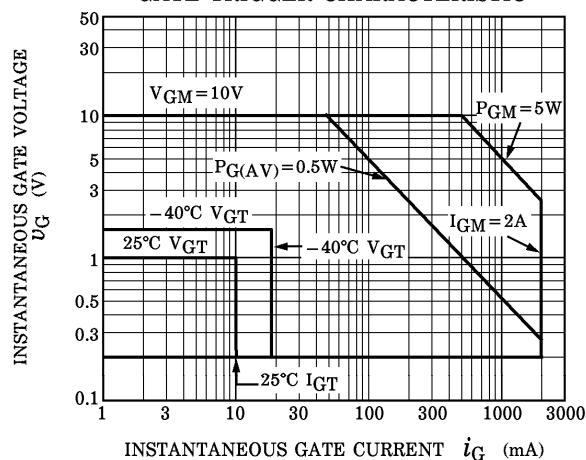
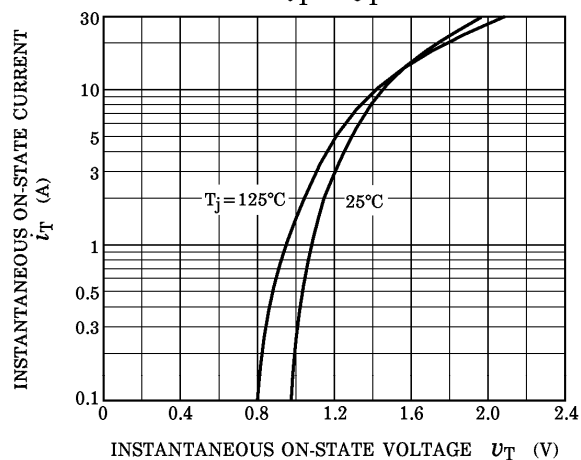
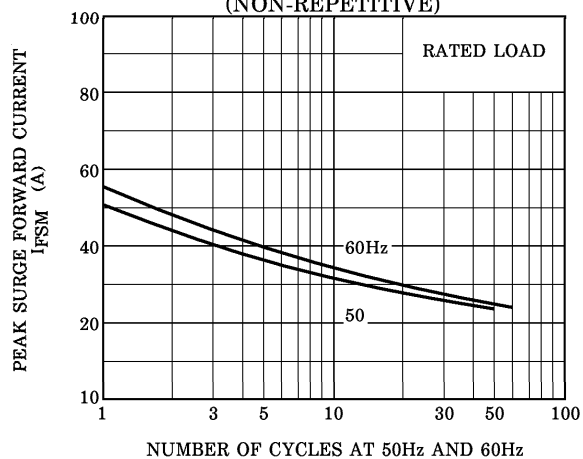
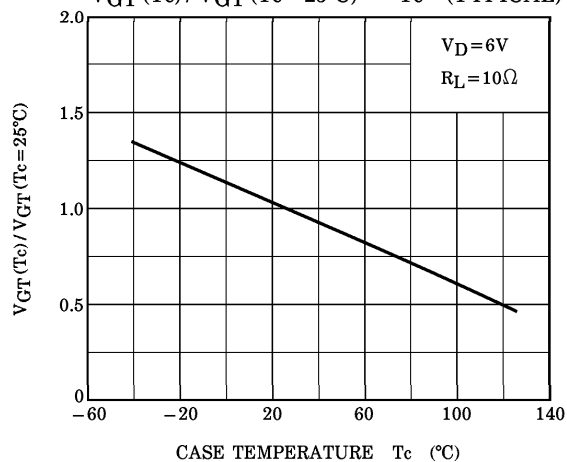
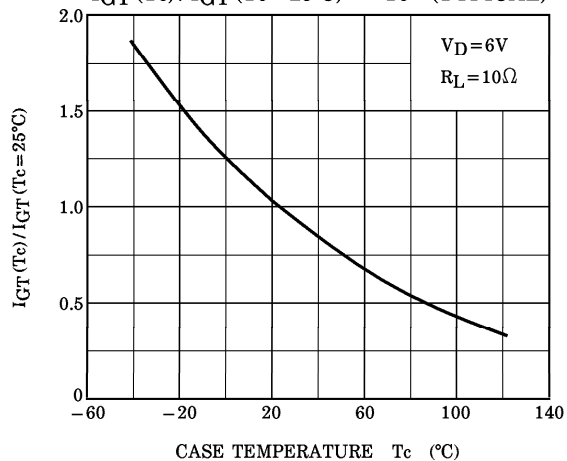
CHARACTERISTICS		SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF3G48	V_{DRM} V_{RRM}	400	V
	USF3G48			
	SF3J48 USF3J48		600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5ms, $T_j = 0 \sim 125^\circ\text{C}$)	SF3G48	V_{RSM}	500	V
	USF3G48			
	SF3J48 USF3J48		720	
Average On-State Current		$I_{\text{T}}(\text{AV})$	3	A
R.M.S On-State Current		$I_{\text{T}}(\text{RMS})$	4.7	A
Peak One Cycle Surge On-State Current (Non-Repetitive)		I_{TSM}	50 (50Hz)	A
			55 (60Hz)	
I^2t Limit Value		I^2t	18	A^2s
Critical Rate of Rise of On-State Current (Note 1)		di/dt	100	$\text{A} / \mu\text{s}$
Peak Gate Power Dissipation		P_{GM}	5	W
Average Gate Power Dissipation		$P_{\text{G}}(\text{AV})$	0.5	W
Peak Forward Gate Voltage		V_{FGM}	10	V
Peak Reverse Gate Voltage		V_{RGM}	-5	V
Peak Forward Gate Current		I_{GM}	2	A
Junction Temperature		T_j	$-40 \sim 125$	$^\circ\text{C}$
Strage Temperature Range		T_{stg}	$-40 \sim 125$	$^\circ\text{C}$

Note 1: $V_{\text{DRM}} = 0.5 \times \text{Rated}$
 $I_{\text{TM}} \leq 12\text{A}$
 $t_{\text{gw}} \geq 10\mu\text{s}$
 $t_{\text{gr}} \leq 250\text{ns}$
 $i_{\text{gp}} = I_{\text{GT}} \times 2.0$

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{\text{DRM}} = V_{\text{RRM}} = \text{Rated}$	—	—	10	μA
Peak On-State Voltage	V_{TM}	$I_{\text{TM}} = 12\text{A}$	—	—	1.5	V
Gate Trigger Voltage	V_{GT}	$V_{\text{D}} = 6\text{V}, R_{\text{L}} = 10\Omega$	—	—	1.0	V
Gate Trigger Current	I_{GT}		—	—	10	mA
Gate Non-Trigger Voltage	V_{GD}	$V_{\text{D}} = \text{Rated} \times 2/3, T_c = 125^\circ\text{C}$	0.2	—	—	V
Critical Rate of Rise of Off-State Voltage	dv/dt	$V_{\text{DRM}} = \text{Rated}, T_c = 125^\circ\text{C}$ Exponential Rise	—	50	—	$\text{V} / \mu\text{s}$
Holding Current	I_{H}	$V_{\text{D}} = 6\text{V}, I_{\text{TM}} = 1\text{A}$	—	—	40	mA
Latching Current	I_{L}	$V_{\text{D}} = 6\text{V}, f = 50\text{Hz}$ $t_{\text{gw}} = 50\mu\text{s}, i_{\text{G}} = 30\text{mA}$	—	—	50	mA
Thermal Resistance	$R_{\text{th}}(j-c)$	Junction to Case, DC	—	—	3.6	$^\circ\text{C} / \text{W}$

GATE TRIGGER CHARACTERISTIC

 $i_T - v_T$ SURGE ON-STATE CURRENT
(NON-REPETITIVE) $V_{GT}(T_c) / V_{GT}(T_c = 25^\circ C) - T_c$ (TYPICAL) $I_{GT}(T_c) / I_{GT}(T_c = 25^\circ C) - T_c$ (TYPICAL) $I_H(T_c) / I_H(T_c = 25^\circ C) - T_c$ (TYPICAL)