

SM8G45, SM8J45, SM8G45A, SM8J45A

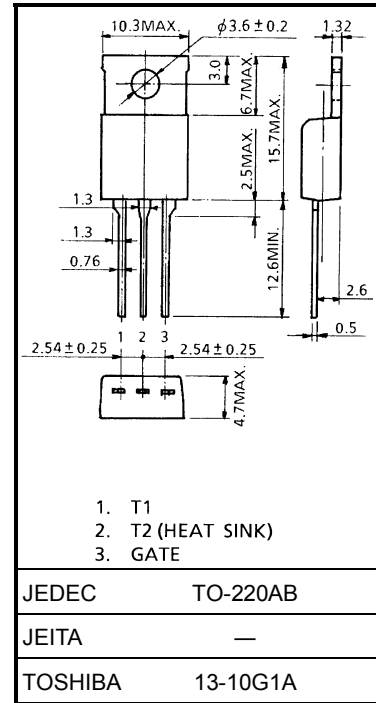
AC POWER CONTROL APPLICATIONS

- Repetitive Peak Off-State Voltage: $V_{DRM} = 400V, 600V$
- R.M.S On-State Current: $I_T (RMS) = 8A$
- High Commutating (dv / dt)

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage	SM8G45 SM8G45A	400	V
	SM8J45 SM8J45A	600	
R.M.S On-State Current (Full Sine Waveform $T_c = 105^\circ C$)	$I_T (RMS)$	8	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	80 (50Hz)	A
		88 (60Hz)	
I^2_t Limit Value	I^2_t	32	A^2s
Critical Rate of Rise of On-State Current	di / dt	50	$A / \mu s$
Peak Gate Power Dissipation	P_{GM}	5	W
Average Gate Power Dissipation	$P_G (AV)$	0.5	W
Peak Gate Voltage	V_{GM}	10	V
Peak Gate Current	I_{GM}	2	A
Junction Temperature	T_j	-40~125	$^\circ C$
Storage Temperature Range	T_{stg}	-40~125	$^\circ C$

Unit: mm

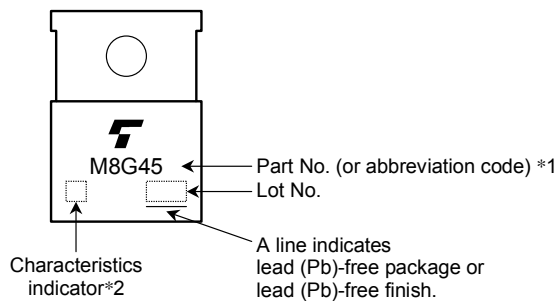


Weight: 2.0 g (typ.)

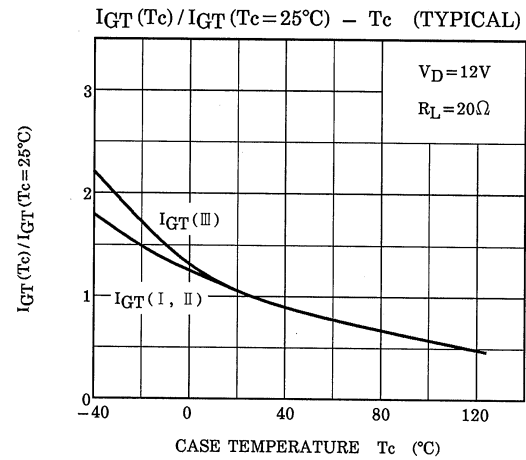
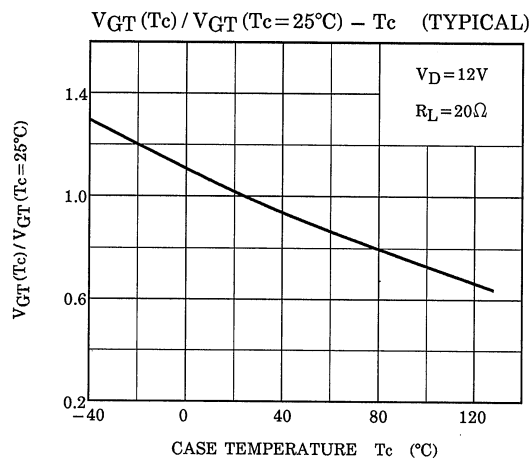
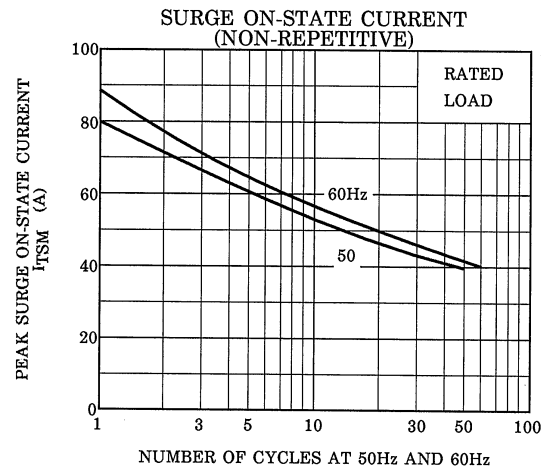
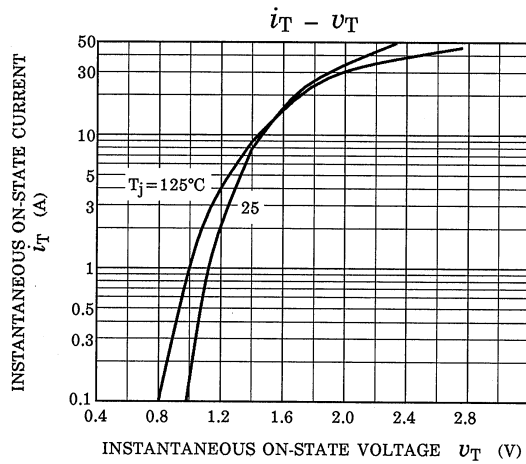
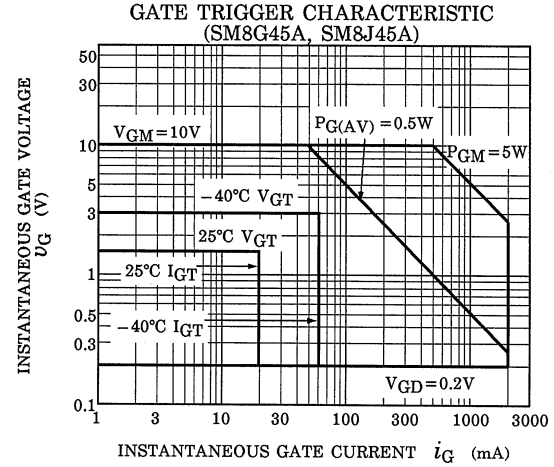
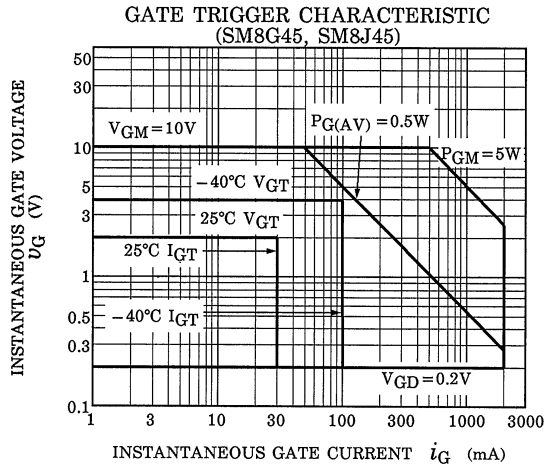
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

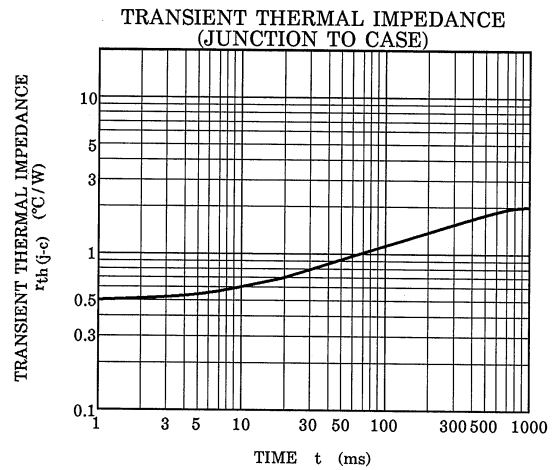
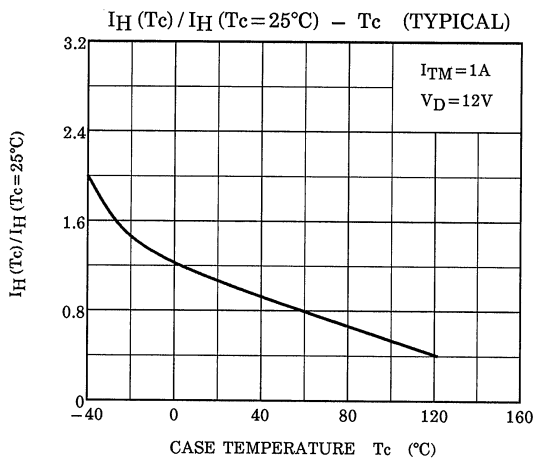
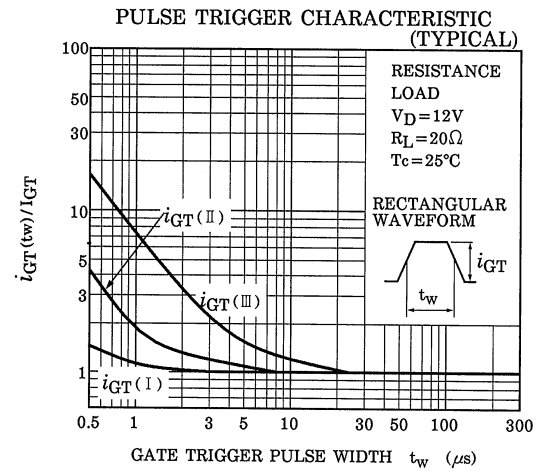
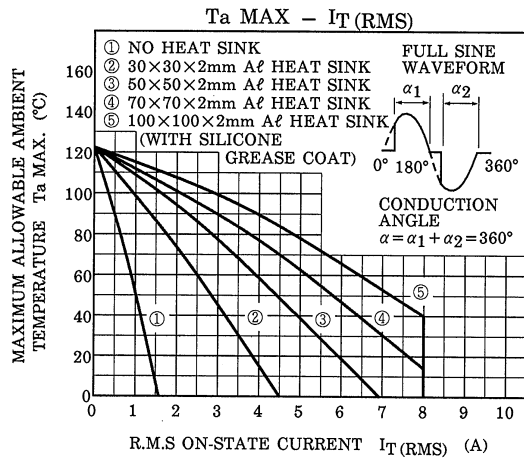
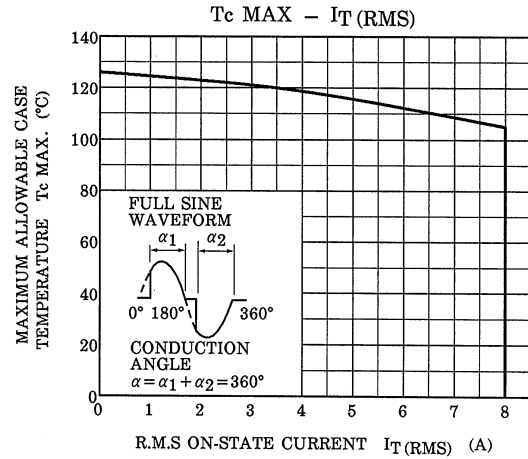
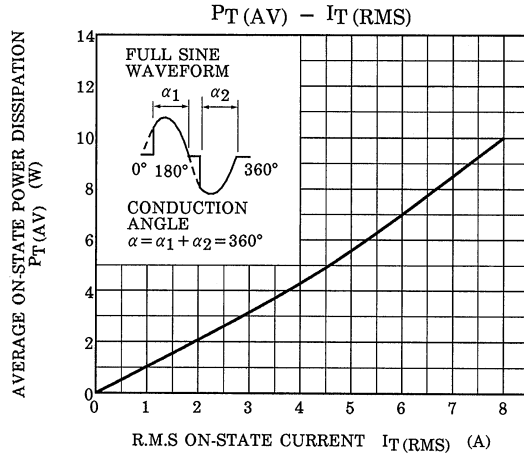
CHARACTERISTIC			SYMBOL	TEST CONDITION		MIN	TYP.	MAX	UNIT
Repetitive Peak Off-State Current			I _{DRM}	V _{DRM} = Rated, T _j = 125°C		—	—	2	mA
Gate Trigger Voltage	SM8G45 SM8J45	I	V _{GT}	V _D = 12V R _L = 20Ω	T2 (+), Gate (+)	—	—	2	V
		II			T2 (+), Gate (—)	—	—	2	
		III			T2 (—), Gate (—)	—	—	2	
		IV			T2 (—), Gate (+)	—	—	—	
	SM8G45A SM8J45A	I			T2 (+), Gate (+)	—	—	1.5	
		II			T2 (+), Gate (—)	—	—	1.5	
		III			T2 (—), Gate (—)	—	—	1.5	
		IV			T2 (—), Gate (+)	—	—	—	
Gate Trigger Current	SM8G45 SM8J45	I	I _{GT}	V _D = 12V R _L = 20Ω	T2 (+), Gate (+)	—	—	30	mA
		II			T2 (+), Gate (—)	—	—	30	
		III			T2 (—), Gate (—)	—	—	30	
		IV			T2 (—), Gate (+)	—	—	—	
	SM8G45A SM8J45A	I			T2 (+), Gate (+)	—	—	20	
		II			T2 (+), Gate (—)	—	—	20	
		III			T2 (—), Gate (—)	—	—	20	
		IV			T2 (—), Gate (+)	—	—	—	
Peak On-State Voltage			V _{TM}	I _{TM} = 12A		—	—	1.5	V
Gate Non-Trigger Voltage			V _{GD}	V _D = Rated, T _c = 125°C		0.2	—	—	V
Holding Current			I _H	V _D = 12V, I _{TM} = 1A		—	—	50	mA
Thermal Resistance			R _{th (j-c)}	Junction to Case, AC		—	—	2.0	°C / W
Critical Rate of Rise of Off-State Voltage at Commutation	SM8G45 SM8J45	(dv / dt) c	V _{DRM} = 400V, (di / dt) c = -4.5A / ms T _j = 125°C	10	—	—	V / μs		
	SM8G45A SM8J45A			4	—	—			

MARKING



	Part No. (or abbreviation code)	Part No.
*1	M8G45	SM8G45, SM8G45A
	M8J45	SM8J45, SM8J45A
*2	Nothing	SM8G45, SM8J45
	M8J45A	SM8G45A, SM8J45A





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