

SM16G45, SM16J45, SM16G45A, SM16J45A

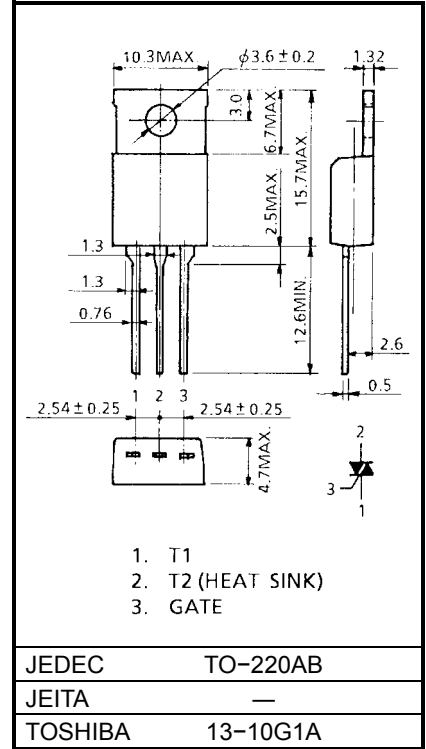
AC POWER CONTROL APPLICATIONS

- Repetitive Peak Off-State Voltage : $V_{DRM} = 400, 600V$
- R.M.S On-State Current : $I_T (RMS) = 16A$
- High Commutating (dv / dt)

MAXIMUM RATINGS

CHARACTERISTIC		SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage	SM16G45 SM16G45A	V_{DRM}	400	V
	SM16J45 SM16J45A		600	
R.M.S On-State Current (Full Sine Waveform $T_c = 100^\circ C$)		$I_T (RMS)$	16	A
Peak One Cycle Surge On-State Current (Non-Repetitive)		I_{TSM}	150 (50Hz)	A
			165 (60Hz)	
$I^2 t$ Limit Value		$I^2 t$	112.5	$A^2 s$
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

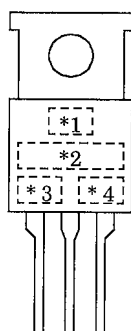


Weight: 2.0g

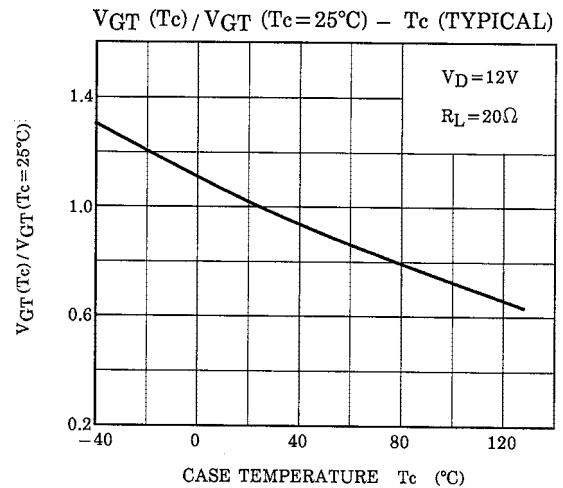
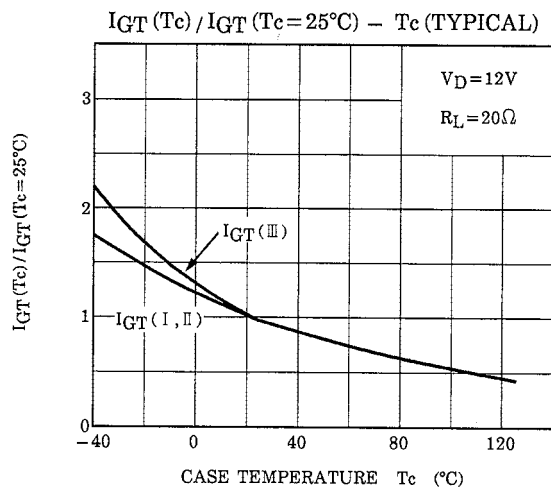
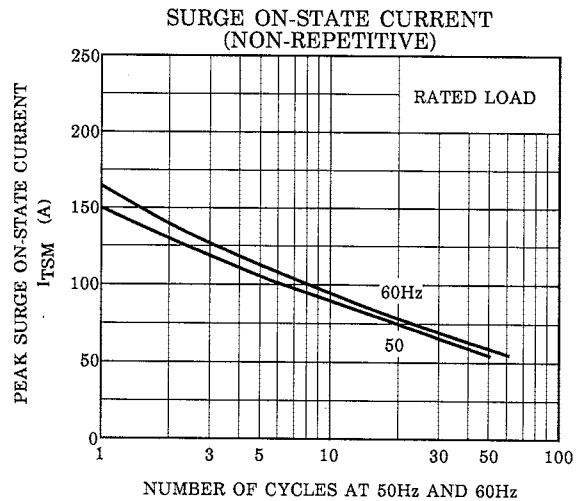
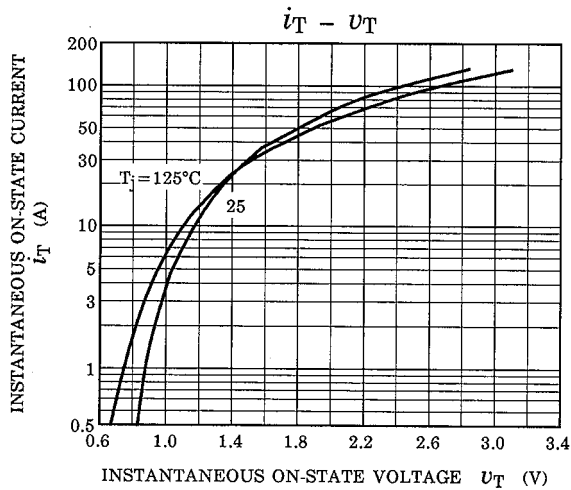
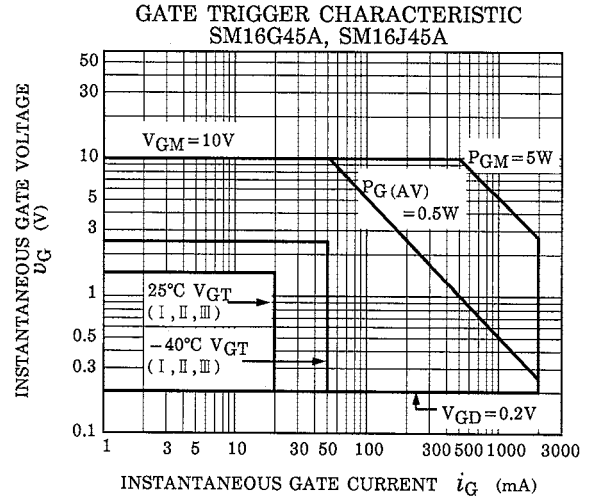
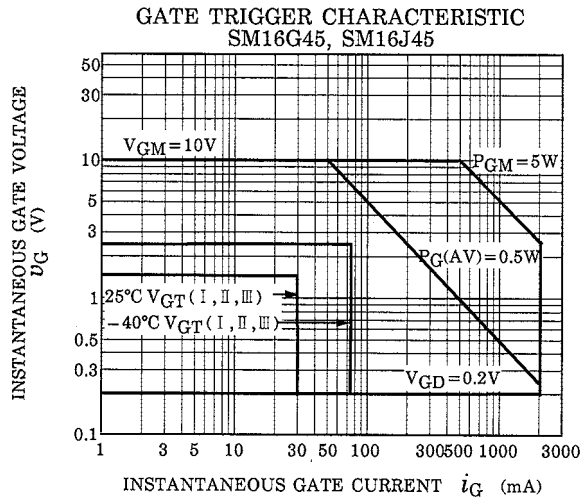
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

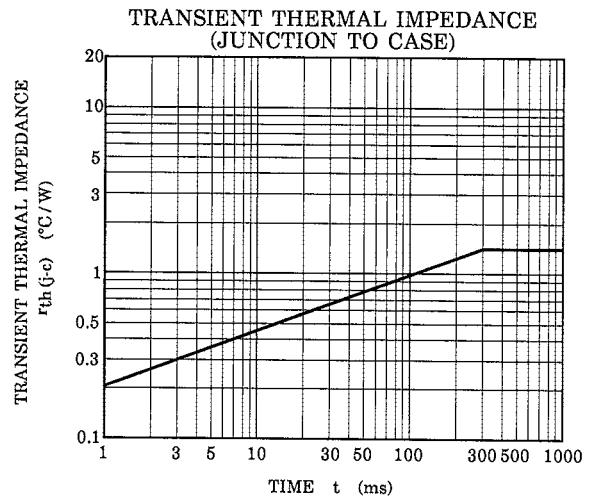
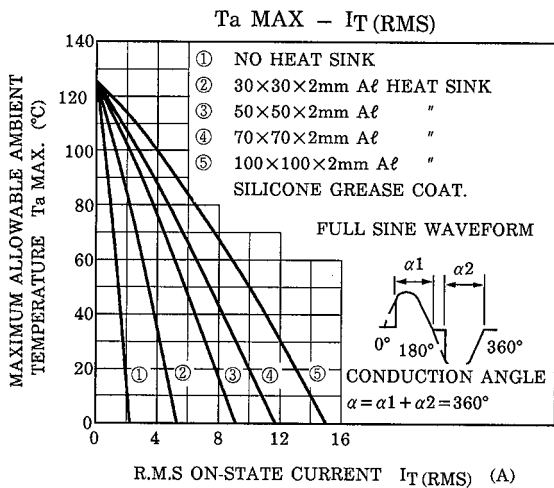
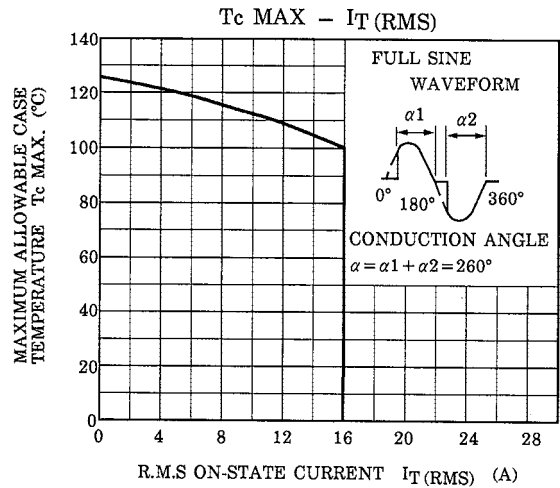
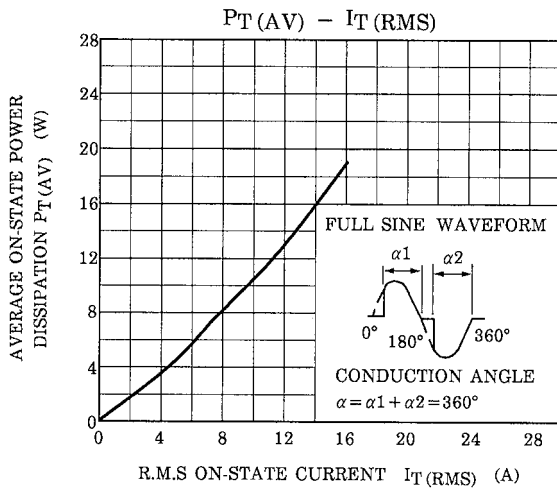
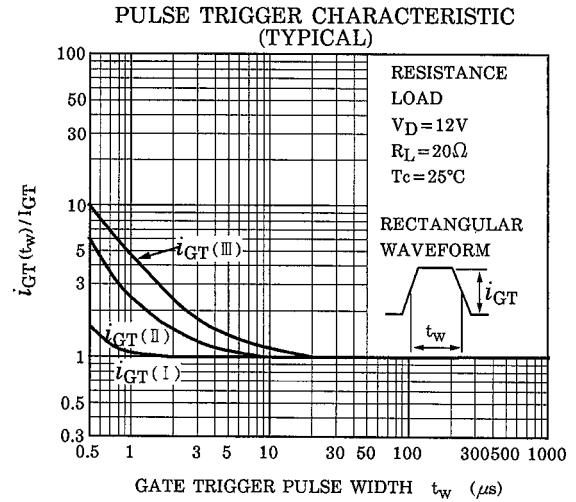
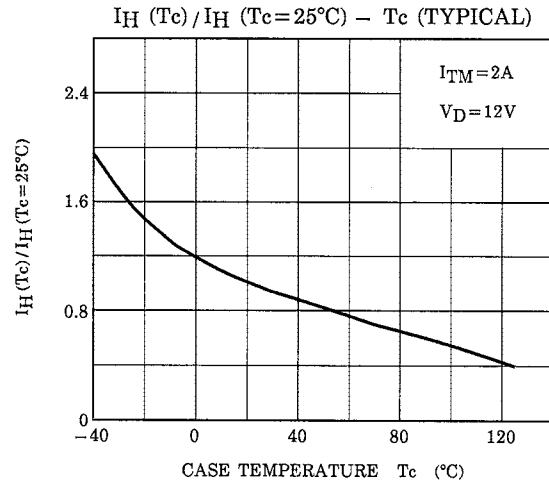
CHARACTERISTIC		SYMBOL	TEST CONDITION		MIN	TYP.	MAX	UNIT	
Repetitive Peak Off-State Current		I _{DRM}	V _{DRM} = Rated		—	—	20	μA	
Gate Trigger Voltage		I	V _{GT}	V _D = 12V, R _L = 20Ω	T2 (+) , Gate (+)	—	—	1.5	V
		II			T2 (+) , Gate (–)	—	—	1.5	
		III			T2 (–) , Gate (–)	—	—	1.5	
		IV			T2 (–) , Gate (–)	—	—	—	
Gate Trigger Current	SM16G45 SM16J45	I	I _{GT}	V _D = 12V, R _L = 20Ω	T2 (+) , Gate (+)	—	—	30	mA
		II			T2 (+) , Gate (–)	—	—	30	
		III			T2 (–) , Gate (–)	—	—	30	
		IV			T2 (–) , Gate (+)	—	—	—	
	SM16G45A SM16J45A	I			T2 (+) , Gate (+)	—	—	20	
		II			T2 (+) , Gate (–)	—	—	20	
		III			T2 (–) , Gate (–)	—	—	20	
		IV			T2 (–) , Gate (+)	—	—	—	
Peak On-State Voltage		V _{TM}	I _{TM} = 25A		—	—	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} = 2A		—	—	50	mA	
Critical Rate of Rise of Off-State Voltage at Commutation	SM16G45 SM16J45	(dv / dt) c	V _D = 400V, (di / dt) c = – 8.7A / ms T _j = 125°C		10	—	—	V / μs	
	SM16G45A SM16J45A				4	—	—		
Thermal Resistance		R _{th (j-c)}	Junction to Case, AC		—	—	1.4	°C / W	

MARKING



* NUMBER	SYMBOL		MARK
* 1	TOSHIBA PRODUCT MARK		
* 2	TYPE	SM16G45, SM16G45A	M16G45
		SM16J45, SM16J45A	M16J45
* 3	SM16G45A, SM16J45A		A
* 4	Lot Number Month (Starting from Alphabet A) Year (Last Decimal Digit of the Current Year)		Example 8A: January 1998 8B: February 1998 8L: December 1998





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000707EAA

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