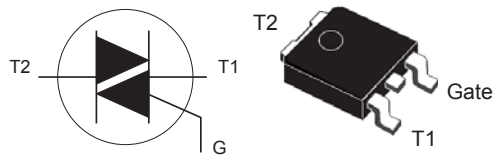
TRIAC
2KM7605 Series

■ Features

- Repetitive peak off-state voltages :500V/600V/800V
- RMS on-state current :4A
- Non-repetitive peak on-state current :35A

TO-252



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	2KM7605 -500	2KM7605 -600	2KM7605 -800	Unit
Repetitive Peak Off-state Voltages	V_{DRM}	500	600	800	V
Reverse Repetitive Peak Voltages	V_{RRM}	500	600	800	V
RMS on-state Current $T_{amb} \leqslant 102$ °C	$I_{T(RMS)}$	4			A
Non-Repetitive Peak on-state Current t=20ms	I_{TSM}	35			A
Non-Repetitive Peak on-state Current t=16.7ms	I_{TSM}	37			A
Circuit Fusing Considerations t = 10ms	I^2t	6.1			A^2s
Peak Gate Current	I_{GM}	2			A
Peak Gate Power	P_{GM}	5			W
Average Gate Power Ta = 125℃	$P_{G(AV)}$	0.5			W
Thermal Resistance Junction to Case	R_{thJC}	2.8			K/W
junction Temperature	T_J	125			℃
Storage Temperature range	T_{stg}	-40 to 150			℃

TRIAC
2KM7605 Series

■ Electrical Characteristics (Ta = 25℃, unless otherwise noted.)

Parameter	Symbol	Test Conditions		Min	Typ.	Max	Unit
Repetitive Peak off-state Voltages	V_{DRM}	I_D=10μA	2KM7605-500E/500F/500G	500			V
			2KM7605-600E/600F/600G	600			
			2KM7605-800E/800F/800G	800			
Off-state Leakage Current	I_D	V_D = $V_{DRM(max)}$, T_J = 125℃				0.5	mA
On-state Voltage	V_{TM}	I_T=5A				1.7	V
Gate Trigger Voltage	V_{GT}	V_D=12V, I_T=0.1A				1.3	
		V_D=400V, I_T=0.1A, T_J = 125℃		0.2			
Gate Trigger Current	I_{GT}	V_D=12V, I_T=0.1A	2KM7605-500E/600E/800E T2+ G+			10	mA
			2KM7605-500F/600F/800F T2+ G+			25	
			2KM7605-500G/600G/800G T2+ G+			50	
			2KM7605-500E/600E/800E T2+ G-			10	
			2KM7605-500F/600F/800F T2+ G-			25	
			2KM7605-500G/600G/800G T2+ G-			50	
			2KM7605-500E/600E/800E T2- G-			10	
			2KM7605-500F/600F/800F T2- G-			25	
			2KM7605-500G/600G/800G T2- G-			50	
			2KM7605-500E/600E/800E T2- G+			25	
			2KM7605-500F/600F/800F T2- G+			70	
			2KM7605-500G/600G/800G T2- G+			100	
Latching Current	I_L	V_D=12V, I_{GT}=0.1A	2KM7605-500E/600E/800E T2+ G+			20	mA
			2KM7605-500F/600F/800F T2+ G+			20	
			2KM7605-500G/600G/800G T2+ G+			30	
			2KM7605-500E/600E/800E T2+ G-			30	
			2KM7605-500F/600F/800F T2+ G-			30	
			2KM7605-500G/600G/800G T2+ G-			45	
			2KM7605-500E/600E/800E T2- G-			20	
			2KM7605-500F/600F/800F T2- G-			20	
			2KM7605-500G/600G/800G T2- G-			30	
			2KM7605-500E/600E/800E T2- G+			30	
			2KM7605-500F/600F/800F T2- G+			30	
			2KM7605-500G/600G/800G T2- G+			45	
Holding Current	I_H	V_D=12V ,I_{GT}=0.1A	2KM7605-500E/600E/800E			15	
			2KM7605-500F/600F/800F			20	
			2KM7605-500G/600G/800G			30	
Repetitive rate of rise of on-state current after triggering	dIT/dt	I_{TM} =6A , I_G = 0.2A, dI_G/dt = 0.2 A/us	T2+ G+			50	A/μs
			T2+ G-			50	
			T2- G-			50	
			T2- G+			10	

TRIAC
2KM7605 Series

■ Electrical Characteristics (Ta = 25℃, unless otherwise noted.)

Critical Rate of rise of off-state Voltage	dVD/dt	VDM=67% VDRM(max); Tj=125℃ exponential waveform;	2KM7605-500E/600E/800E	100		V/μs
			2KM7605-500F/600F/800F	50		
			2KM7605-500G/600G/800G	200		
Critical rate of change of commutating voltage	dVcom/dt	VDM = 400V , TJ= 95 °C IT(RMS) = 4 A , dIcom/dt = 1.8 A/us; gate open circuit			50	V/μs
Gate Controlled turn-on time	tgt	ITM=6A; VD=VDRM(max),IG=0.1A; dIG/dt=5A/us			2	μs

■ Typical Characterisitics

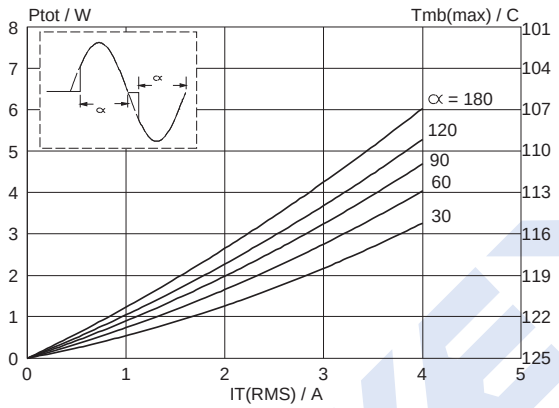


Fig.1. Maximum on-state dissipation, P_{tot}, versus rms on-state current, $I_{T(RMS)}$, where α = conduction angle.

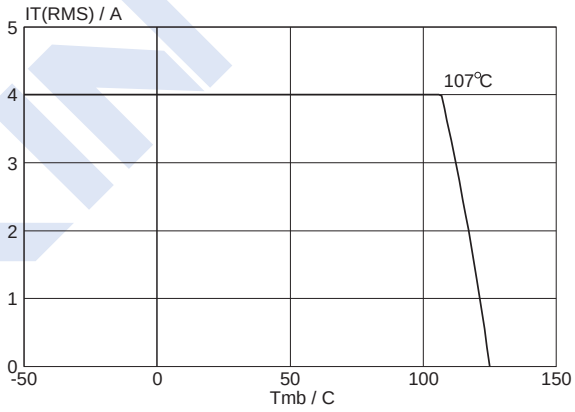


Fig.3. Maximum permissible rms current $I_{T(RMS)}$, versus mounting base temperature T_{mb}.

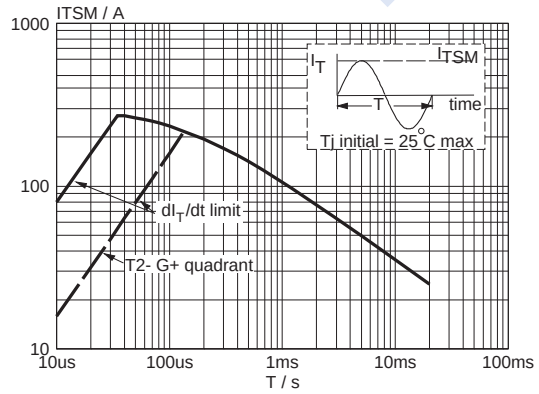


Fig.2. Maximum permissible non-repetitive peak on-state current I_{TSM}, versus pulse width t_p, for sinusoidal currents, $t_p \leq 20ms$.

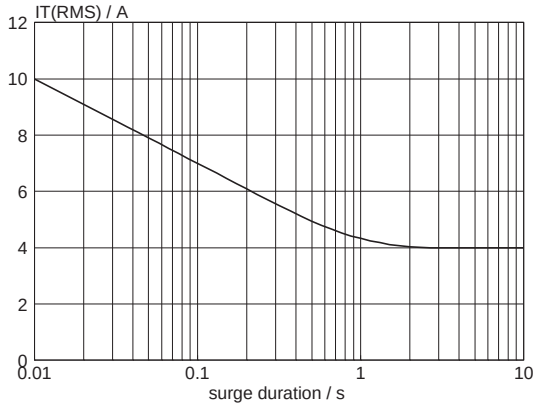


Fig.4. Maximum permissible repetitive rms on-state current $I_{T(RMS)}$, versus surge duration, for sinusoidal currents, f = 50 Hz; $T_{mb} \leq 107^{\circ}C$.

TRIAC
2KM7605 Series

■ Typical Characterisitics

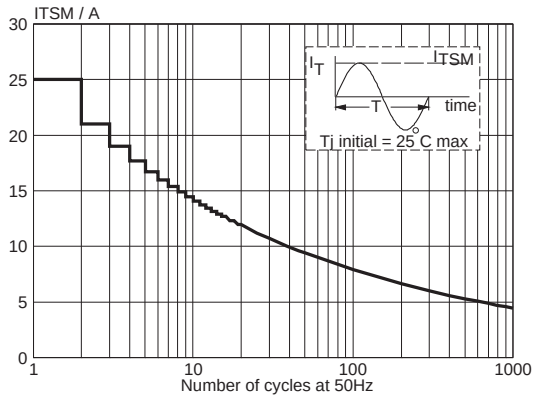


Fig.5. Maximum permissible non-repetitive peak on-state current I_{TSM}, versus number of cycles, for sinusoidal currents, f = 50 Hz.

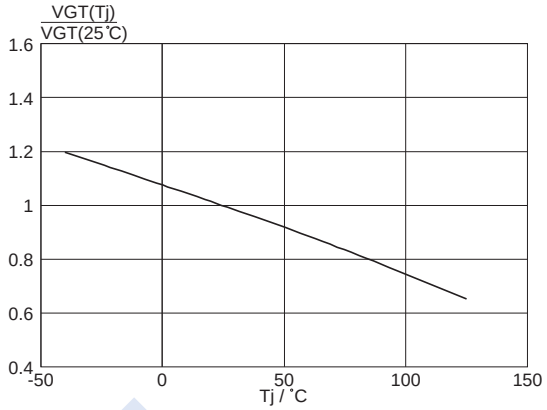


Fig.6. Normalised gate trigger voltage $V_{GT}(T_j)/ V_{GT}(25˚C)$, versus junction temperature T_j.

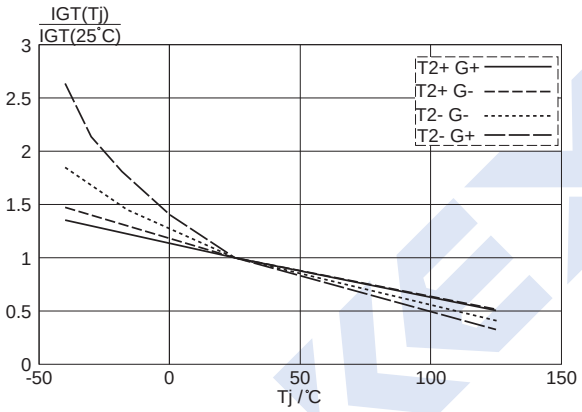


Fig.7. Normalised gate trigger current $I_{GT}(T_j)/ I_{GT}(25˚C)$, versus junction temperature T_j.

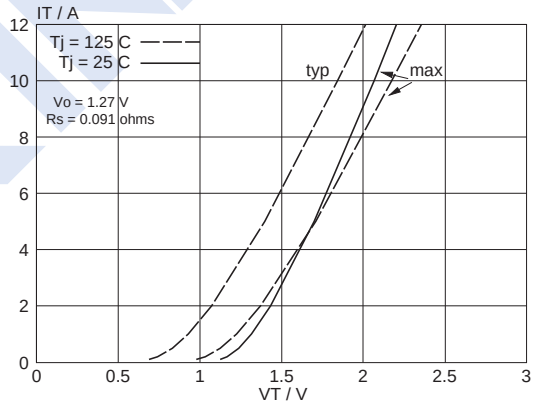


Fig.8. Typical and maximum on-state characteristic.

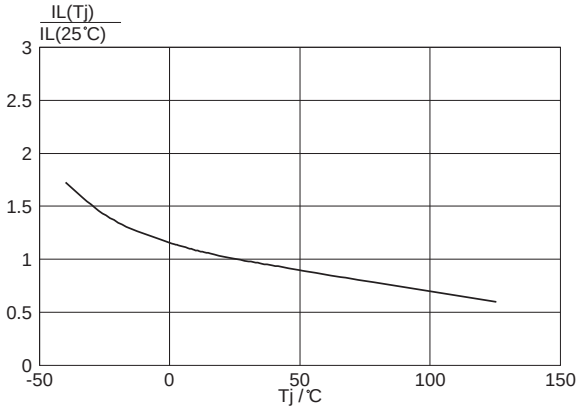


Fig.9. Normalised latching current $I_L(T_j)/ I_L(25˚C)$, versus junction temperature T_j.

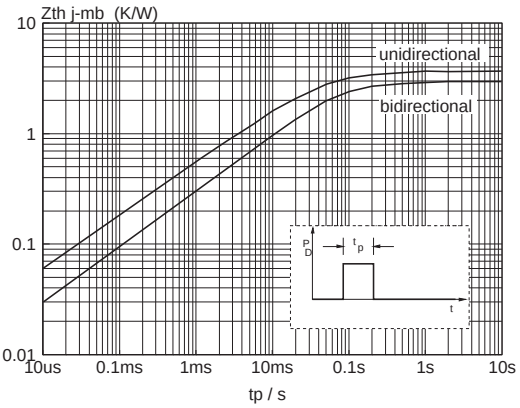


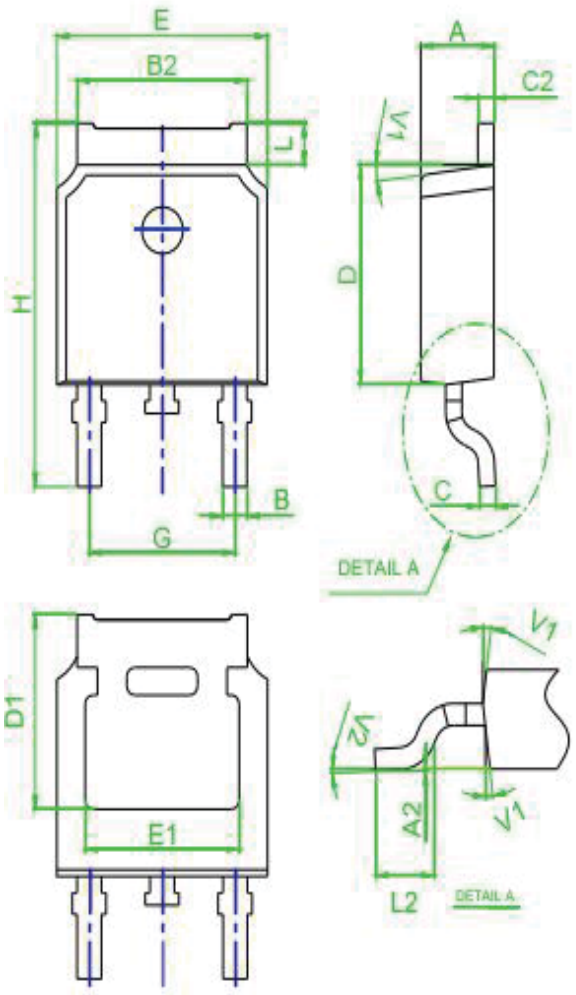
Fig.10. Transient thermal impedance $Z_{th\ j\text{-}mb}$, versus pulse width t_p.

TRIAC

2KM7605 Series

■ Package Outline Dimensions

Unit:mm



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°