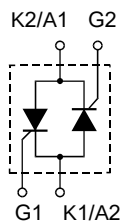
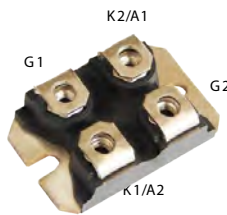
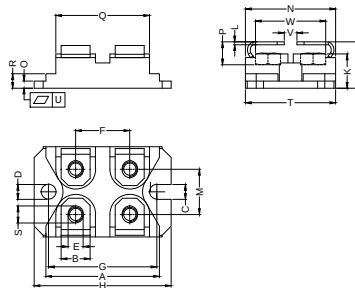


SSAC90G16S

Anti-Parallel Thyristor-Thyristor Modules(Solid State AC Switch)



Dimensions SOT-227(ISO TOP)



Dim.	Millimeter		Dim.	Millimeter	
	Min.	Max.		Min.	Max.
A	31.30	31.65	M	12.00	13.00
B	7.80	8.40	N	25.15	25.65
C	4.00	4.30	O	1.95	2.15
D	φ4.00	φ4.30	P	5.60	6.60
E	4.00	4.30	Q	25.30	26.30
F	14.90	15.20	R	3.90	4.30
G	30.10	30.30	S	4.45	4.85
H	38.00	38.50	T	24.50	25.10
J	12.10	12.90	U	0.05	0.10
K	9.00	9.60	V	3.00	4.80
L	0.75	0.85	W	19.30	20.50

Type	V_{RSM}	V_{RRM}
	V_{DSM}	V_{DRM}
	V	V
SSAC90G08S	800	800
SSAC90G12S	1200	1200
SSAC90G14S	1400	1400
SSAC90G16S	1600	1600
SSAC90G18S	1800	1800

Symbol	Test Conditions	Maximum Ratings	Unit
I_{RMS}	$T_C = 110^{\circ}C$, 50 - 400 Hz, module	90	A
I_{TRMS}	$T_{VJ} = T_{VJM}$	65	
I_{TAVM}	$T_C = 110^{\circ}C$; (180° sine)	41	
I_{TSM}	$T_{VJ} = 45^{\circ}C$	$t = 10ms$ (50Hz), sine	A
	$V_R = 0$	$t = 8.3ms$ (60Hz), sine	
	$T_{VJ} = T_{VJM}$	$t = 10ms$ (50Hz), sine	
	$V_R = 0$	$t = 8.3ms$ (60Hz), sine	
I^2t	$T_{VJ} = 45^{\circ}C$	$t = 10ms$ (50Hz), sine	A^2s
	$V_R = 0$	$t = 8.3ms$ (60Hz), sine	
	$T_{VJ} = T_{VJM}$	$t = 10ms$ (50Hz), sine	
	$V_R = 0$	$t = 8.3ms$ (60Hz), sine	
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ $f = 50Hz$, $t_p = 200\mu s$ $V_D = 2/3 V_{DRM}$ $I_G = 0.3A$ $di_G/dt = 0.3A/\mu s$	repetitive, $I_T = 150A$	A/ μs
		non repetitive, $I_T = I_{TAVM}$	
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $R_{GK} = \infty$; method 1 (linear voltage rise)	$V_{DR} = 2/3 V_{DRM}$	V/ μs
P_{GM}	$T_{VJ} = T_{VJM}$	$t_p = 30\mu s$	W
P_{GAVM}	$I_T = I_{TAVM}$	$t_p = 300\mu s$	
V_{RGM}		10	V
T_{VJ}		-40...+150	$^{\circ}C$
T_{VJM}		150	
T_{stg}		-40...+150	
V_{ISOL}	50/60Hz, RMS $I_{ISOL} \leq 1mA$	2500	V~
M_d	Mounting torque (M4) Terminal connection torque (M4)	1.1-1.5/9-13 1.1-1.5/9-13	Nm/lb.in.
Weight	typical	30	g

Sirectifier®

SSAC90G16S

Anti-Parallel Thyristor-Thyristor Modules(Solid State AC Switch)

Symbol	Test Conditions	Characteristic Values	Unit
I_R, I_D	$T_{VJ}=T_{VJM}; V_R=V_{RRM}; V_D=V_{DRM}$	≤ 20	mA
V_T	$I_T=80A; T_{VJ}=25^{\circ}C$	≤ 1.43	V
V_{TO}	For power-loss calculations only	≤ 0.9	V
r_T		≤ 5.8	m Ω
V_{GT}	$V_D=6V; T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	≤ 1.5 ≤ 1.6	V
I_{GT}	$V_D=6V; T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	≤ 100 ≤ 150	mA
V_{GD}	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	≤ 0.2	V
I_{GD}		≤ 5	mA
I_L	$T_{VJ}=25^{\circ}C; t_p=10\mu s$ $I_G=0.3A; di_G/dt=0.3A/\mu s$	≤ 250	
I_H	$T_{VJ}=25^{\circ}C; V_D=6V; R_{GK}=\infty$	≤ 100	
t_{gd}	$T_{VJ}=25^{\circ}C; V_D=1/2V_{DRM}$ $I_G=0.3A; di_G/dt=0.3A/\mu s$	≤ 2	μs
t_q	$T_{VJ}=T_{VJM}; I_T=20A; t_p=200\mu s; di/dt=-10A/\mu s$ typ. $V_R=100V; dv/dt=15V/\mu s; V_D=2/3V_{DRM}$	≤ 150	
R_{thJC}	per thyristor; DC current per module	≤ 0.6 ≤ 0.3	K/W
R_{thCH}	per thyristor; DC current typ. per module typ.	≤ 0.1 ≤ 0.05	
d_s	Creeping distance on surface	≤ 8	mm
d_A	Creepage distance in air	≤ 4	
a	Max. allowable acceleration	≤ 50	m/s ²

FEATURES

- *Thyristor controller for AC for mains frequency
- *International standard package miniBLOC (ISOTOP compatible)
- *Isolation voltage 2500 V~
- *Glass passivated chips
- *UL File NO. E310749
- *RoHS compliance

APPLICATIONS

- *Switching and control of single and three phase AC
- *Softstart AC motor controller
- *Solid state switches
- *Light and temperature control

ADVANTAGES

- *Easy to mount with two screws
- *Space and weight savings
- *Improved temperature and power cycling
- *High power density



SSAC90G16S

Anti-Parallel Thyristor-Thyristor Modules(Solid State AC Switch)

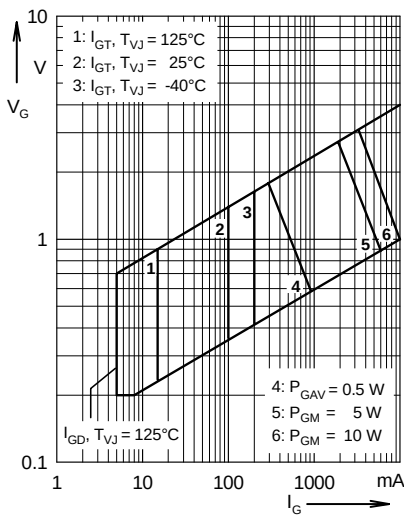


Fig. 1 Gate trigger characteristics

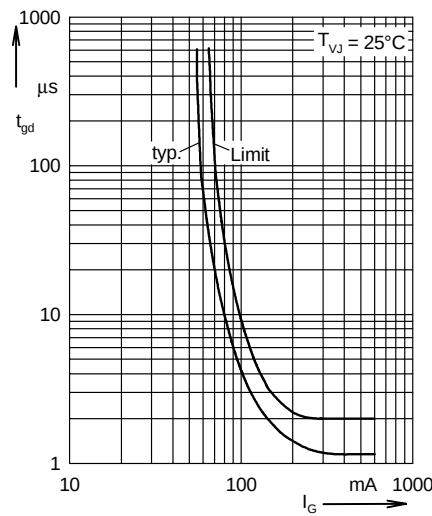


Fig. 2 Gate trigger delay time

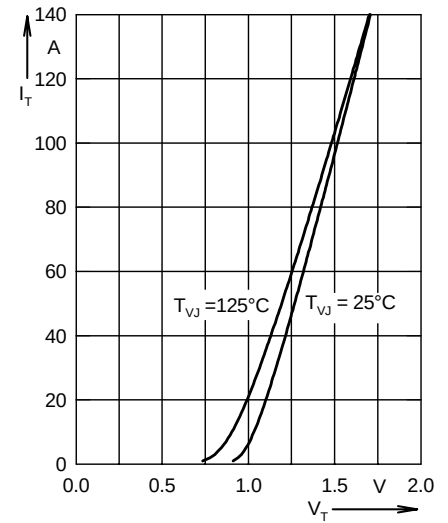


Fig. 3 Forward current versus voltage drop per leg

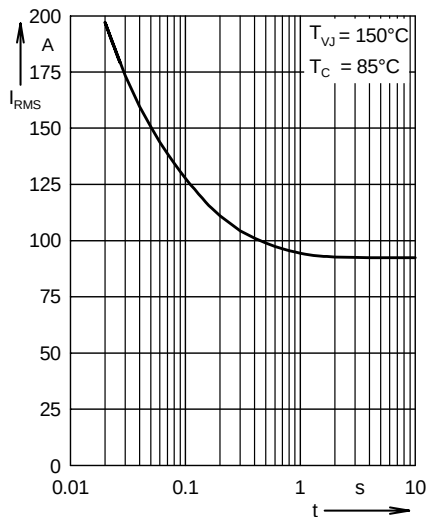


Fig. 4 Rated RMS current versus time (360° conduction)

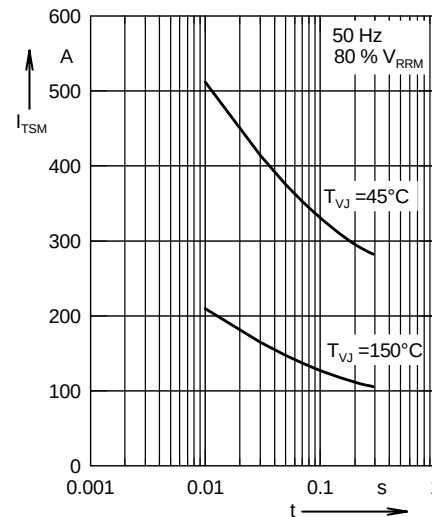


Fig. 5 Surge overload current

SSAC90G16S

Anti-Parallel Thyristor-Thyristor Modules(Solid State AC Switch)

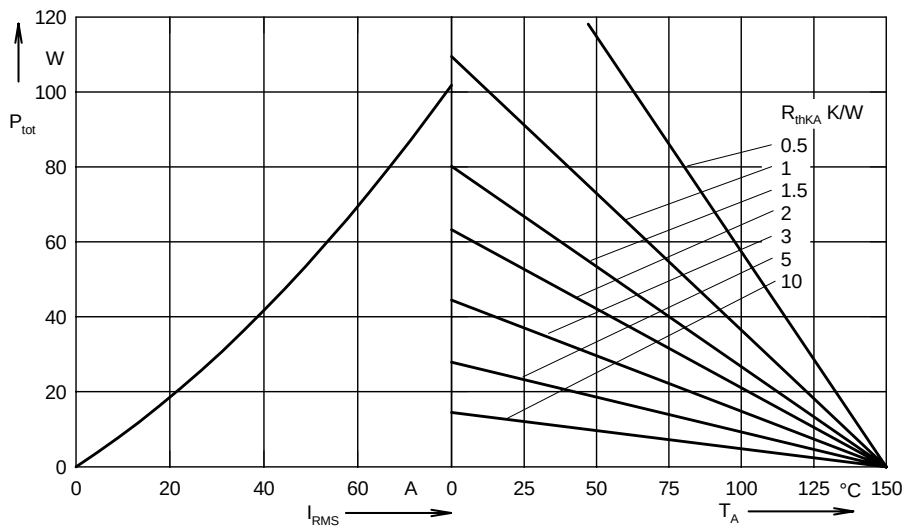


Fig. 6 Load current capability for single AC controller; 1 x SSAC 90

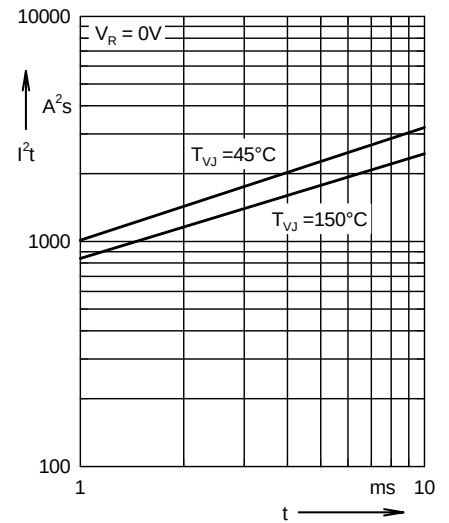


Fig. 7 I^2t versus time (per thyristor)

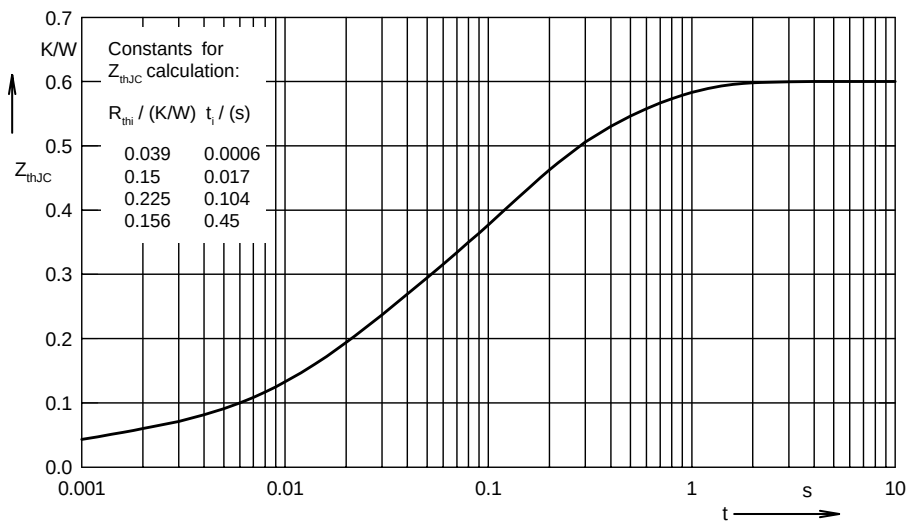


Fig. 8 Transient thermal impedance junction to case (per thyristor)

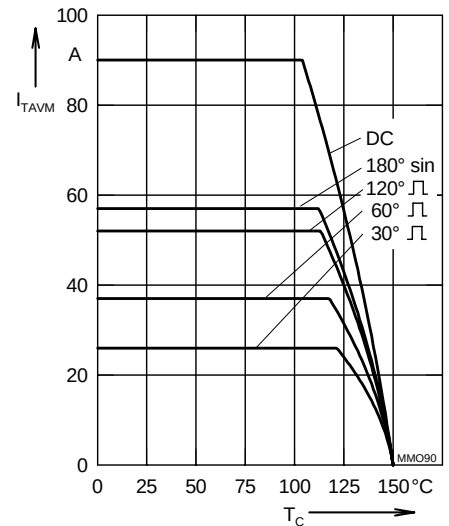


Fig. 9 Maximum forward current at case temperature