

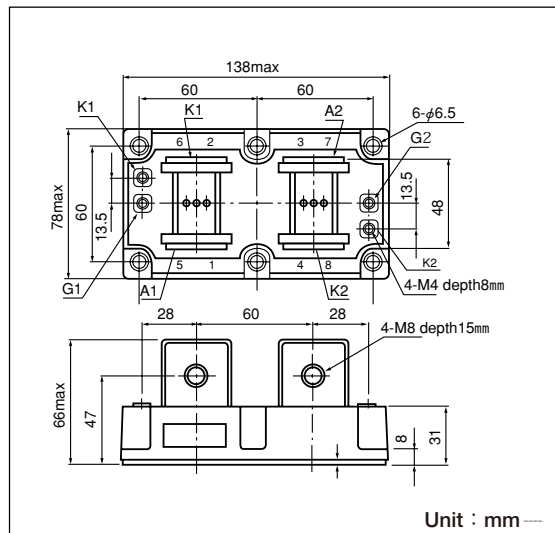
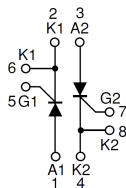
《Features》

Power Thyristor Module SBA500AA series are designed for high power rectifier control applications. Two independent thyristor elements in a electrically isolated package enable you to achieve flexible design, especially for AC switch application, idial terminal location for bus bar connection helps both your mechanical design and mounting procedure be more efficient. SBA series for two thyristors with blocking voltage up to 1600V are available.

- Isolated mounting base
- IT (AV) 500A, IT (RMS) 785A
- di/dt 200 A/μs
- dv/dt 500V/μs

《Applications》

- Various rectifiers / AC/DC motor drives / Heater controls / Light dimmers / Static switches



■ Maximum Ratings (Tj=25°C unless otherwise specified)

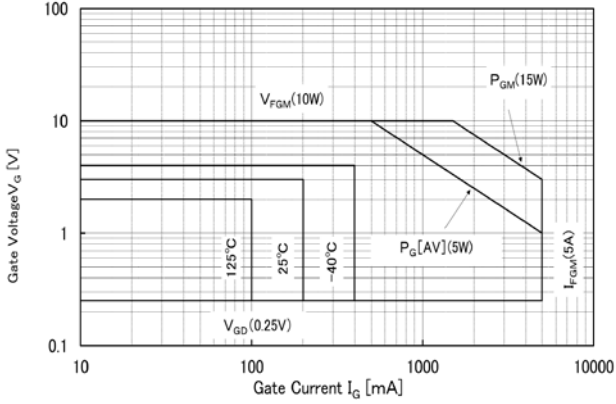
Item	Symbol	Unit	SBA500AA80	SBA500AA160
Repetitive Peak Reverse Voltage	V_{RRM}	V	800	1600
Non-Repetitive Peak Reverse Voltage	V_{RSM}	V	960	1700
Repetitive Peak Off-State Voltage	V_{DRM}	V	800	1600

Item	Symbol	Unit	Ratings	Conditions
Average On-State Current	$I_{T(AV)}$	A	500	Single phase, half wave, 180° conduction, T _C =66°C
R.M.S. On-State Current	$I_{T(RMS)}$	A	785	Single phase, half wave, 180° conduction, T _C =66°C
Surge On-State Current	I_{TSM}	A	9100/10000	1/2cycle, 50/60Hz, Peak value, non-repetitive
I ² t (for fusing)	I ² t	A ² s	416000	Value for one cycle surge current
Peak Gate Power Dissipation	P_{GM}	W	15	
Average Gate Power Dissipation	$P_{G(AV)}$	W	5	
Peak Gate Current	I_{FGM}	A	5	
Peak Gate Voltage(Forward)	V_{FGM}	V	10	
Peak Gate Voltage(Reverse)	V_{RGM}	V	5	
Critical Rate of Rise of On-State Current	di/dt	A/μs	200	I _G =200mA, V _D =1/2V _{DRM} , dI _G /dt=0.2A/μs
Isolation Breakdown Voltage(R.M.S.)	V_{ISO}	V	2500	A.C. 1minute
Operating Junction Temperature	T _j	°C	-40 to +125	
Storage Temperature	T _{stg}	°C	-40 to +125	
Mounting torque	Mounting M6	N·m (kgf·cm)	4.7(48)	Recommended Value 2.5 to 3.9 (25 to 40)
	Terminal M8		11(115)	Recommended Value 8.8 to 10 (90 to 105)
	Terminal M4		1.5(15)	Recommended Value 1.0 to 1.4 (10 to 14)
Mass		g	1100	

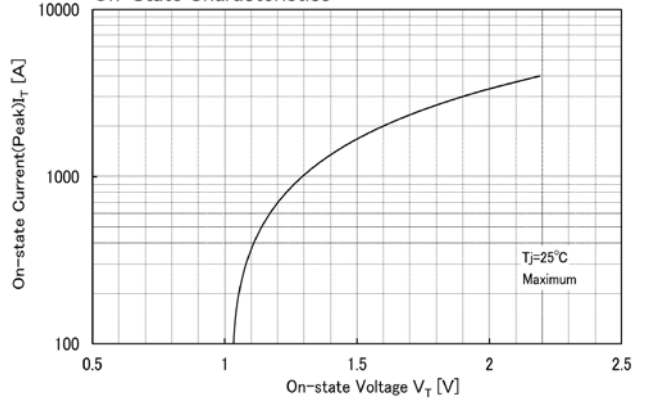
■ Electrical Characteristics (Tj=25°C unless otherwise specified)

Item	Symbol	Unit	Ratings	Conditions
Repetitive Peak Off-State Current, max.	I_{DRM}	mA	150	at V _{DRM} , Single phase, half wave, T _j =125°C
Repetitive Peak Reverse Current, max.	I_{RRM}	mA	150	at V _{RRM} , Single phase, half wave, T _j =125°C
On-State Voltage, max.	V_{TM}	V	1.45	On-State Current 1500A, Inst. measurement
Gate Trigger Current, max.	I_{GT}	mA	200	I _T =1A, V _D =6V
Gate Trigger Voltage, max.	V_{GT}	V	3	I _T =1A, V _D =6V
Gate Non-Trigger Voltage, min.	V_{GD}	V	0.25	T _j =125°C, V _D =1/2V _{DRM}
Turn-on Time,max	t _{gt}	μs	10	I _T =500A, I _G =200mA, V _D =1/2V _{DRM} , dI _G /dt=0.2A/μs, T _j =25°C
Critical Rate of Rise of On-State Voltage, min.	dv/dt	V/μs	500	T _j =125°C, V _D =2/3V _{DRM} , Exponential wave
Thermal Resistance,max.	R _{th}	°C/W	0.085	Junction to case

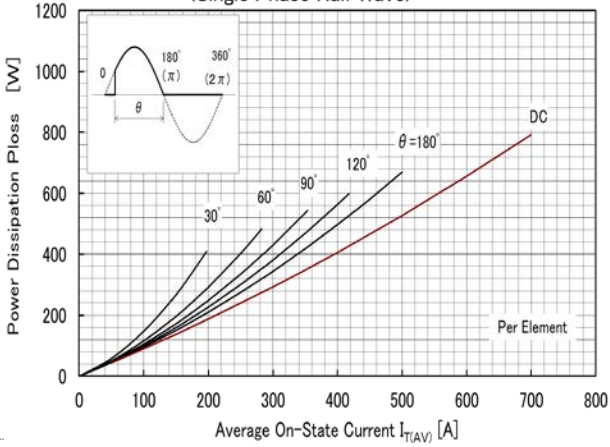
Gate Characteristics



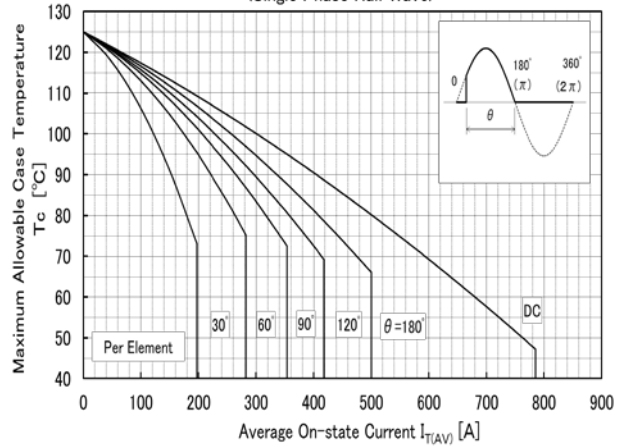
On-State Characteristics



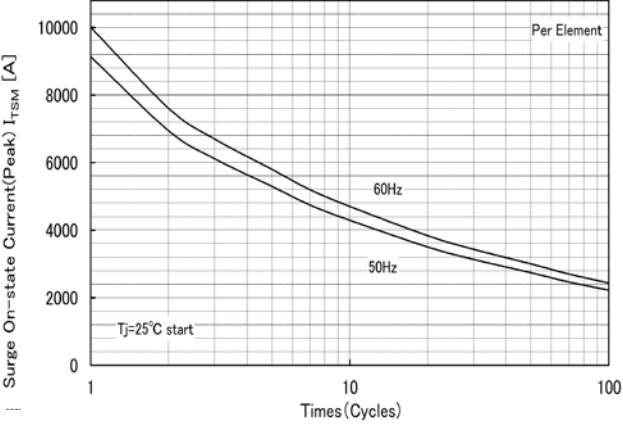
Average On-State Current vs. Power Dissipation <Single Phase Half Wave>



Average On-State Current vs. Maximum Allowable Case Temperature <Single Phase Half Wave>



Surge On-State Current Rating <Non-Repetitive>



Transient Thermal Impedance

