

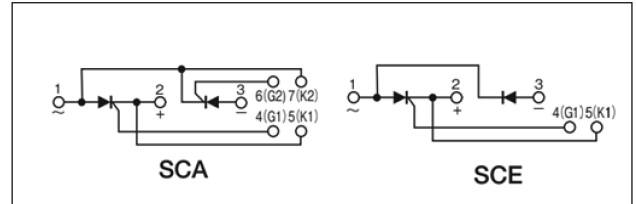
# SCA(SCE)200DB

UL:E76102



Same package as the product in this photo.

$V_{RRM}, V_{DRM} = 800V/1600V$   
 $I_T(AV), I_F(AV) = 200A$

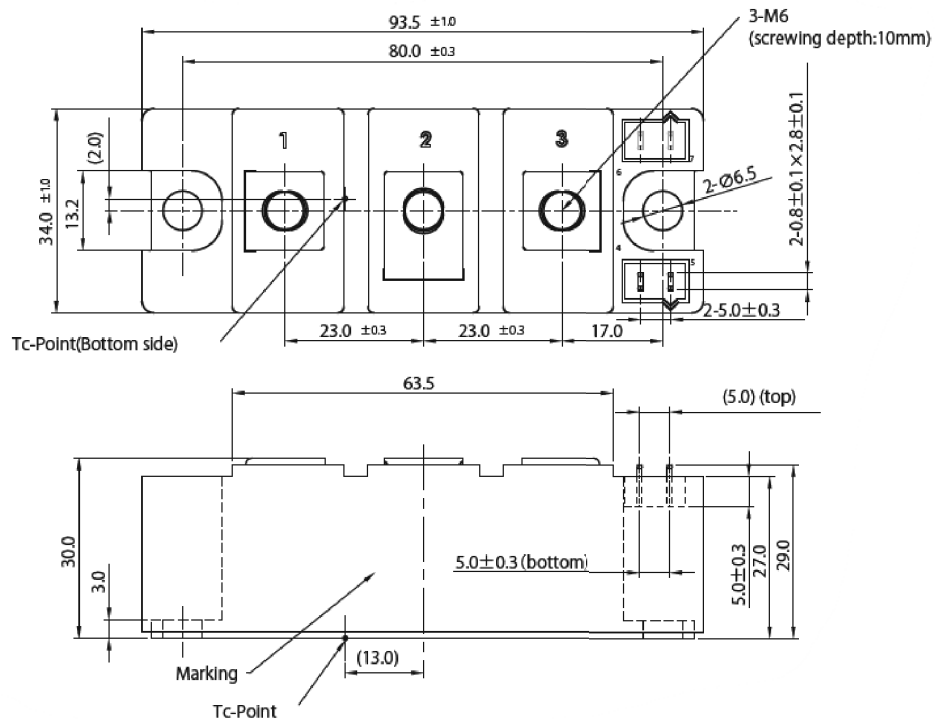


### Features and Advantages

- High di/dt capability thanks to unique gate design (Thyristor part is 2.5 times higher than previous model).
- Improved heat dissipation thanks to newly designed low layered internal structure. Possibility to reduce the heatsink.
- 10% weight reduction by optimizing the internal design and materials.
- Using 100% lead-free solder to protect the environment.

### Applications

- Motor Drives, Servo Controller, Power Controller, UPS, Soft Starter, Various Power Supplies



Unit:mm

■ Maximum Ratings (T<sub>j</sub>=25°C unless otherwise specified)

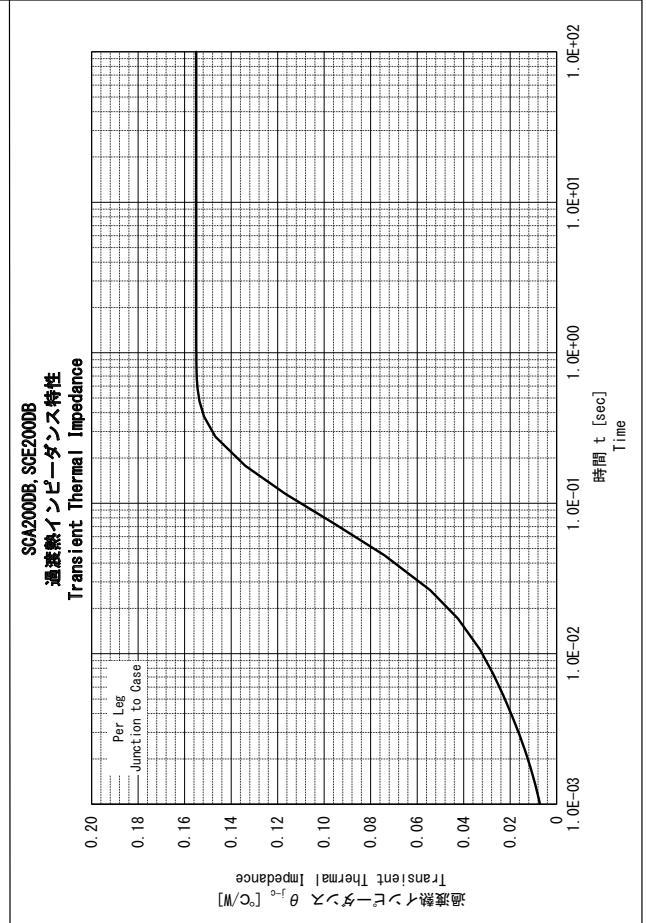
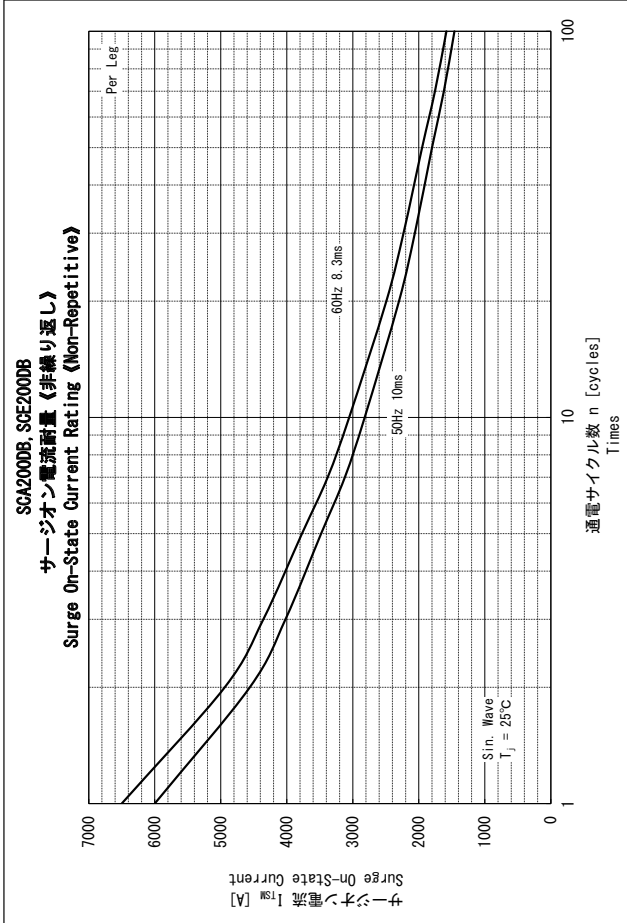
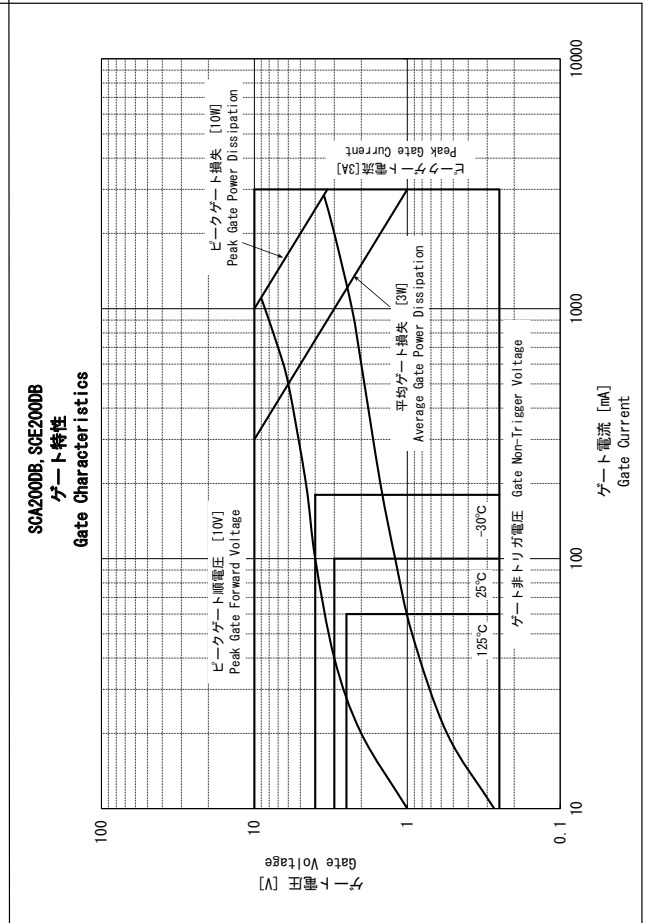
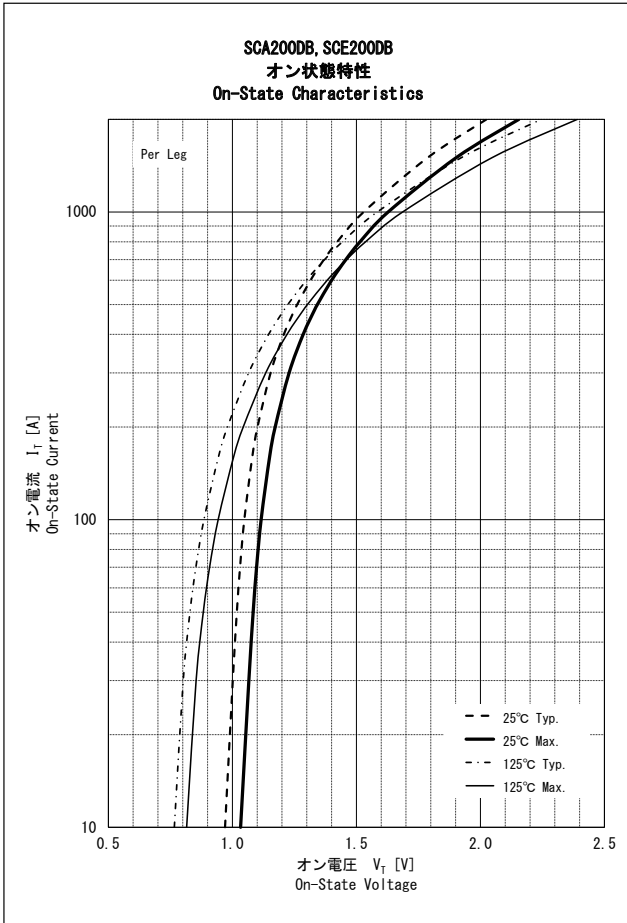
Item	Symbol	Unit	SCA200DB80 SCE200DB80	SCA200DB160 SCE200DB160
*Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	800	1600
*Non-Repetitive Peak Reverse Voltage	V <sub>RSM</sub>	V	960	1700
Repetitive Peak Off-State Voltage	V <sub>DRM</sub>	V	800	1600
Non-Repetitive Peak Off-State Voltage	V <sub>DSM</sub>	V	960	1700

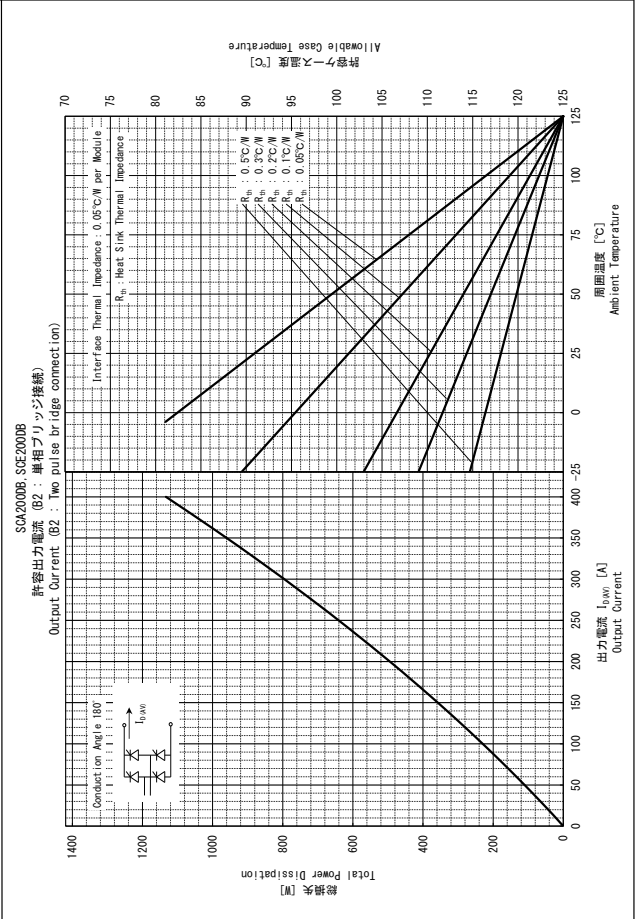
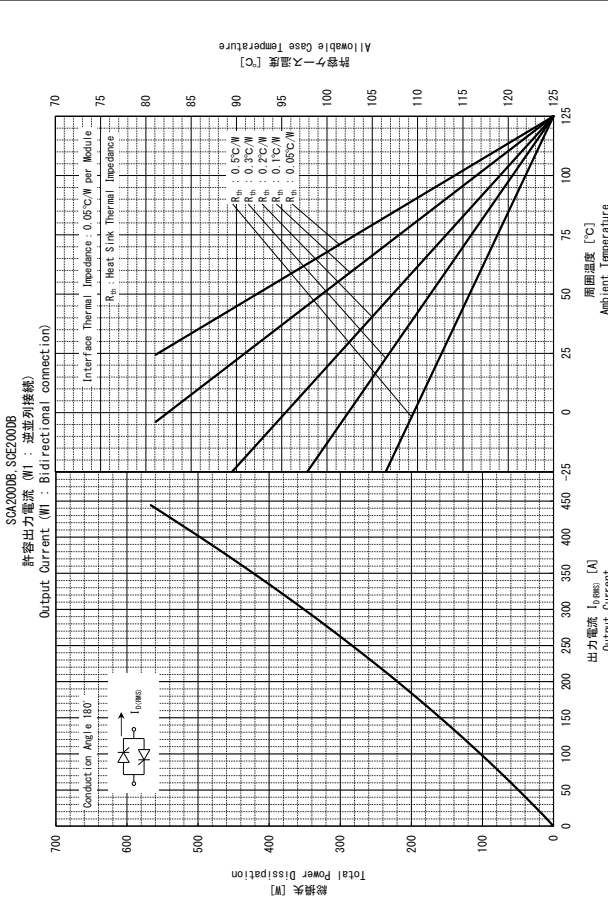
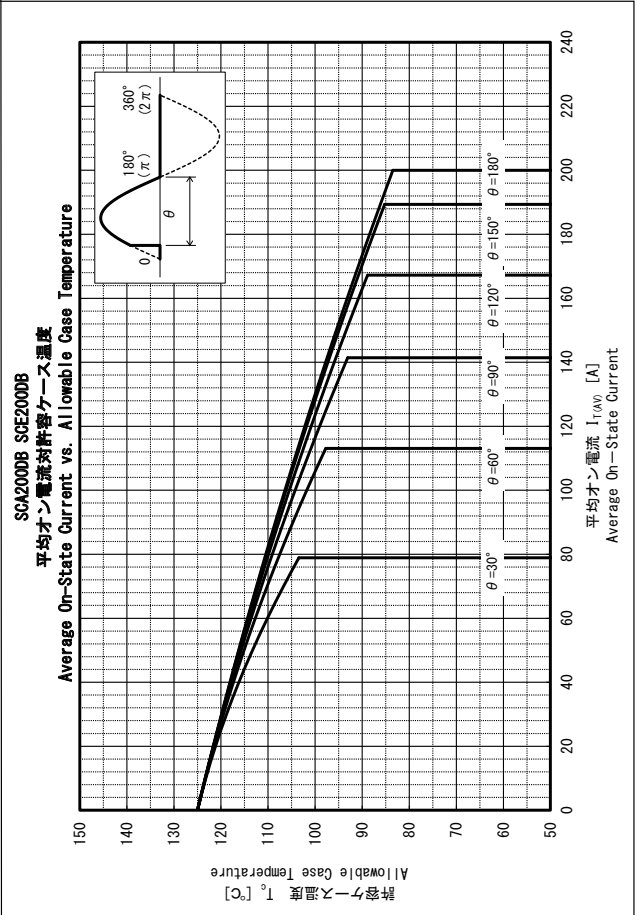
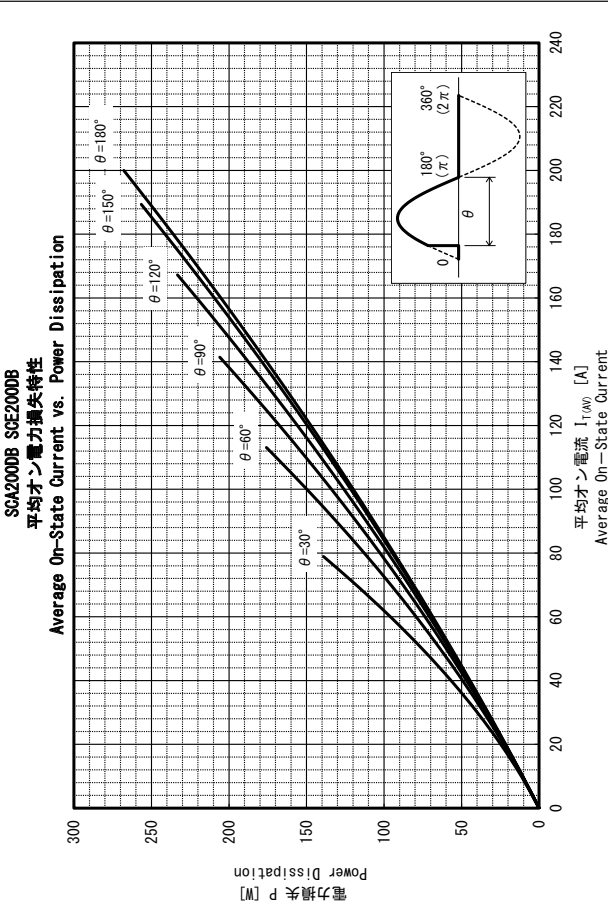
Item	Symbol	Unit	Ratings	Conditions	
*Average On-State Current	I <sub>T(AV)</sub> , I <sub>F(AV)</sub>	A	200	Sin.180° ,T <sub>c</sub> =83°C	
*R.M.S. On-State Current	I <sub>T(RMS)</sub> , I <sub>F(RMS)</sub>	A	314	Sin.180° ,T <sub>c</sub> =83°C	
*Surge On-State Current	I <sub>TSM</sub> , I <sub>FSM</sub>	A	6000/6500	50Hz 10ms/60Hz 8.3ms Sin.Wave,Peak Value, Non-Repetitive	
*I <sup>2</sup> t (for fusing)	I <sup>2</sup> t	A <sup>2</sup> s	180000	50Hz 10ms/60Hz 8.3ms Sin.Wave	
Peak Gate Power Dissipation	P <sub>GM</sub>	W	10		
Average Gate Power Dissipation	P <sub>G(AV)</sub>	W	3		
Peak Gate Current	I <sub>FGM</sub>	A	3		
Peak Gate Forward Voltage	V <sub>FGM</sub>	V	10		
Peak Gate Reverse Voltage	V <sub>RGM</sub>	V	5		
Critical Rate of Rise of On-State Current	di/dt	A/μs	500	T <sub>j</sub> =T <sub>jmax</sub> , I <sub>G</sub> =100mA, V <sub>D</sub> =1/2V <sub>DRM</sub> , dI <sub>G</sub> /dt=0.1A/μs	
*Isolation Voltage	V <sub>ISO</sub>	V	3000	AC,RMS,1min	
*Operating Junction Temperature	T <sub>j</sub>	°C	-40~+125		
*Storage Temperature	T <sub>stg</sub>	°C	-40~+125		
Mounting Torque	Mounting (M6)	-	N·m	4.7	Recommended Value 2.5~3.9(25~40)
	Terminal (M6)	-	(kgf·cm)	4.7	Recommended Value 2.5~3.9(25~40)
Weight	-	-	g	190	Typical Value

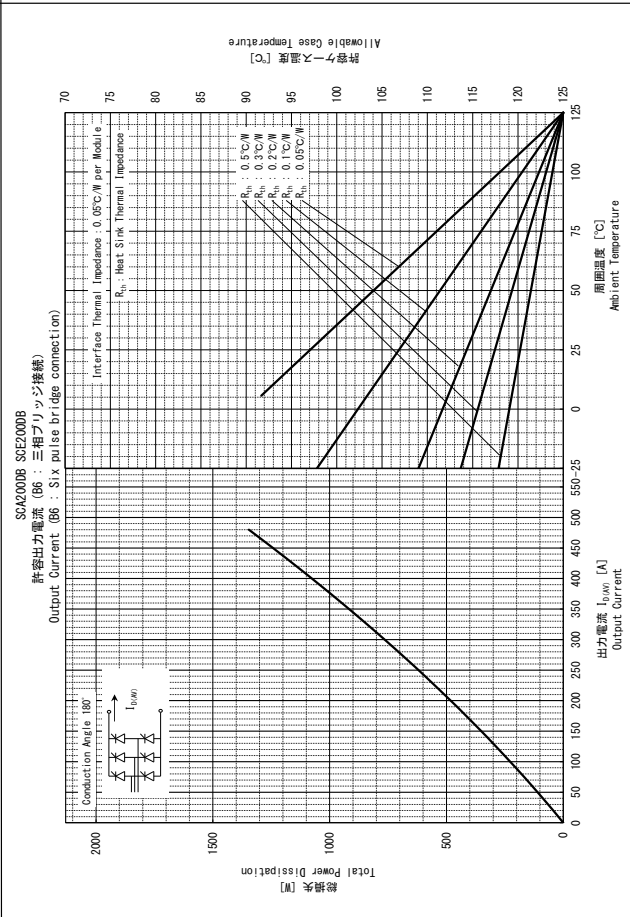
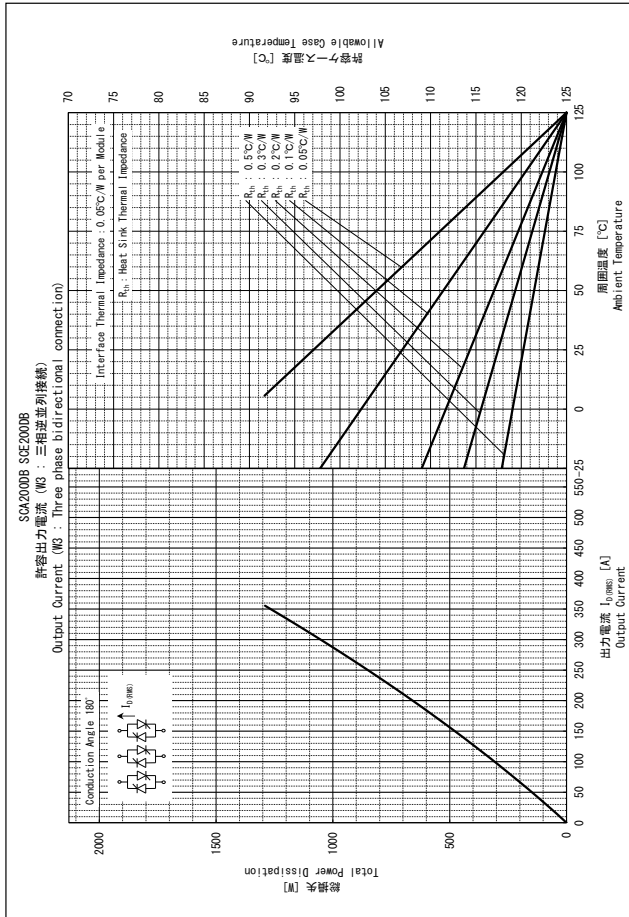
■ Electrical Characteristics (T<sub>j</sub>=25°C unless otherwise specified)

Item	Symbol	Unit	Ratings			Conditions
			Min.	Typ.	Max.	
*Reverse Current	I <sub>R</sub>	mA			100	T <sub>j</sub> =T <sub>jmax</sub> , V <sub>R</sub> =V <sub>RRM</sub> , Per Leg
Off-State Current	I <sub>D</sub>	mA			100	T <sub>j</sub> =T <sub>jmax</sub> , V <sub>D</sub> =V <sub>DRM</sub> , Per Leg
*On-State Voltage	V <sub>T</sub> , V <sub>F</sub>	V			1.34	I <sub>T</sub> =500A, Per Leg
					1.4	I <sub>T</sub> =600A, Per Leg
*Threshold Voltage	V <sub>(TO)</sub>	V			1.06	T <sub>j</sub> =25°C
					0.87	T <sub>j</sub> =T <sub>jmax</sub>
*Forward Slope Resistance	r <sub>T</sub>	mΩ			0.57	T <sub>j</sub> =25°C
					0.85	T <sub>j</sub> =T <sub>jmax</sub>
Gate Trigger Current	I <sub>GT</sub>	mA			100	I <sub>T</sub> =1A, V <sub>D</sub> =6V
Gate Trigger Voltage	V <sub>GT</sub>	V			3	I <sub>T</sub> =1A, V <sub>D</sub> =6V
Gate Non-Trigger Voltage	V <sub>GD</sub>	V	0.25			T <sub>j</sub> =T <sub>jmax</sub> , V <sub>D</sub> =1/2V <sub>DRM</sub>
Turn-On Time	t <sub>gt</sub>	μs			10	V <sub>D</sub> =1/2×V <sub>DRM</sub> , I <sub>T</sub> =200A, I <sub>G</sub> =100mA, dI <sub>G</sub> /dt=0.1A/μs
Critical Rate of Rise of Off-State Voltage	dv/dt	V/μs	1000			T <sub>j</sub> =T <sub>jmax</sub> , V <sub>D</sub> =2/3V <sub>DRM</sub>
Holding Current	I <sub>H</sub>	mA			140	
Latching Current	I <sub>L</sub>	mA			230	
*Thermal Resistance	R <sub>th(j-c)</sub>	°C/W			0.155	Junction to Case (Per Leg)
*Effective Thermal resistance	R <sub>th(j-c)</sub>	°C/W			0.16	sin.180° ,Junction to case ,per one element
					0.17	rec.120° ,Junction to case ,per one element
*Interface Thermal resistance	R <sub>th(c-f)</sub>	°C/W			0.1	Case to Fin (Per Module) Thermal conductivity (Si grease) =9×10 <sup>-3</sup> [W/cm·°C]

\*mark : Thyristor and Diode part. No mark : Thyristor part.







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