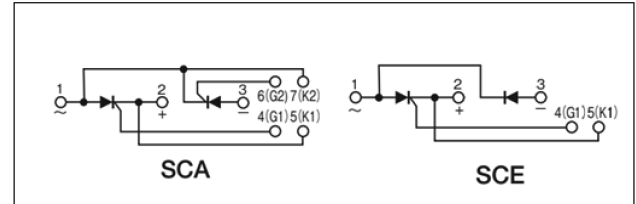


SCA(SCE)200DB

UL:E76102



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

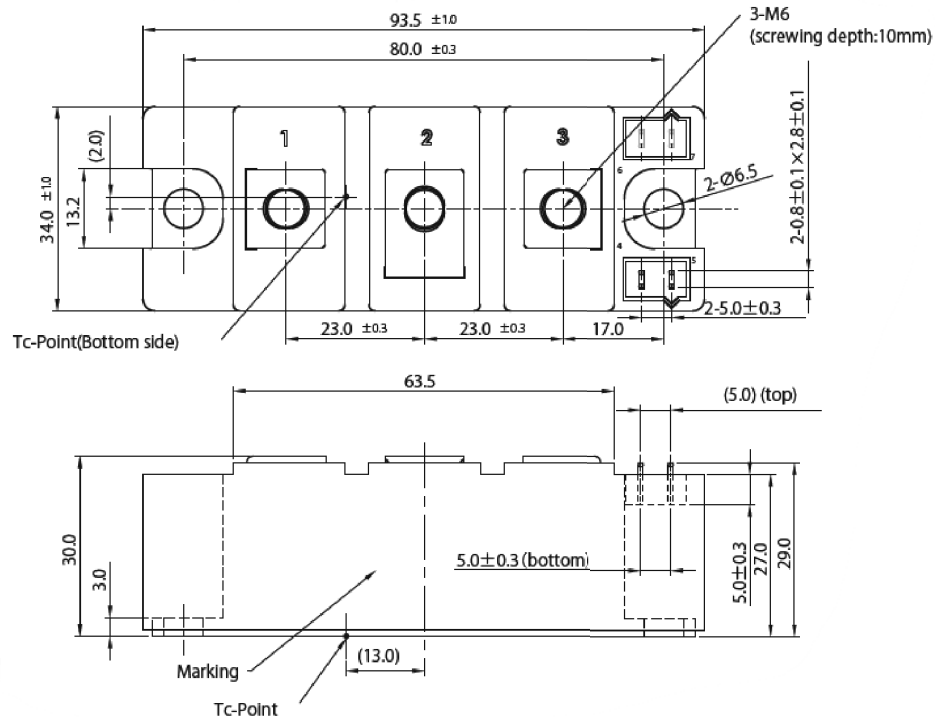


Features and Advantages

- 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



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

Item	Symbol	Unit	SCA200DB80 SCE200DB80	SCA200DB160 SCE200DB160
*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
Non-Repetitive Peak Off-State Voltage	V _{DSM}	V	960	1700

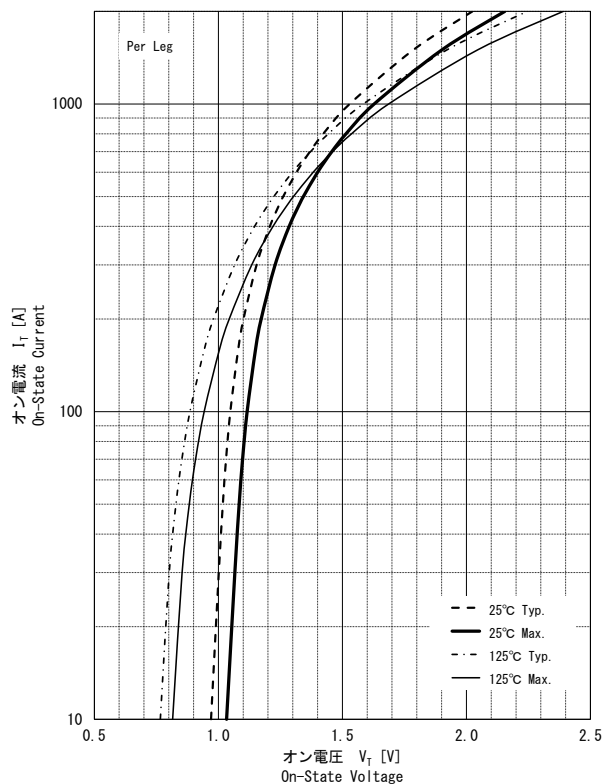
Item		Symbol	Unit	Ratings	Conditions
*Average On-State Current		$I_{T(AV)}, I_{F(AV)}$	A	200	Sin.180° ,Tc=83℃
*R.M.S. On-State Current		$I_{T(RMS)}, I_{F(RMS)}$	A	314	Sin.180° ,Tc=83℃
*Surge On-State Current		I_{TSM}, I_{FSM}	A	6000/6500	50Hz 10ms/60Hz 8.3ms Sin.Wave,Peak Value, Non-Repetitive
*I ² t (for fusing)		I ² t	A ² s	180000	50Hz 10ms/60Hz 8.3ms Sin.Wave
Peak Gate Power Dissipation		P _{GM}	W	10	
Average Gate Power Dissipation		P _{G(AV)}	W	3	
Peak Gate Current		I _{FGM}	A	3	
Peak Gate Forward Voltage		V _{FGM}	V	10	
Peak Gate Reverse Voltage		V _{RGM}	V	5	
Critical Rate of Rise of On-State Current		di/dt	A/μs	500	T _J =T _{Jmax} ,I _G =100mA,V _D =1/2V _{DRM} ,dI _G /dt=0.1A/μs
*Isolation Voltage		V _{ISO}	V	3000	AC,RMS,1min
*Operating Junction Temperature		T _J	℃	-40~+125	
*Storage Temperature		T _{stg}	℃	-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_j=25°C unless otherwise specified)

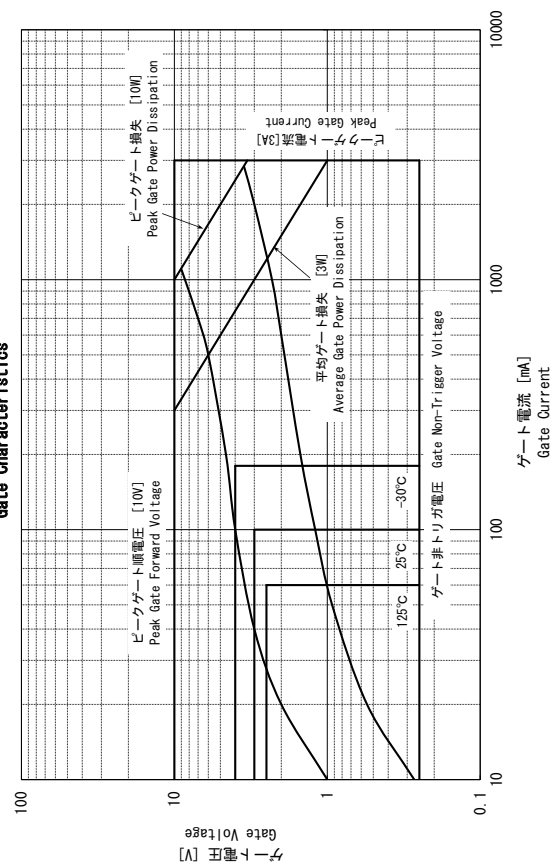
Item	Symbol	Unit	Ratings			Conditions
			Min.	Typ.	Max.	
*Reverse Current	I _R	mA			100	T _j =T _{jmax} , V _R =V _{RRM} , Per Leg
Off-State Current	I _D	mA			100	T _j =T _{jmax} , V _D =V _{DRM} , Per Leg
*On-State Voltage	V _T , V _F	V			1.34	I _T =500A, Per Leg
					1.4	I _T =600A, Per Leg
*Threshold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

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

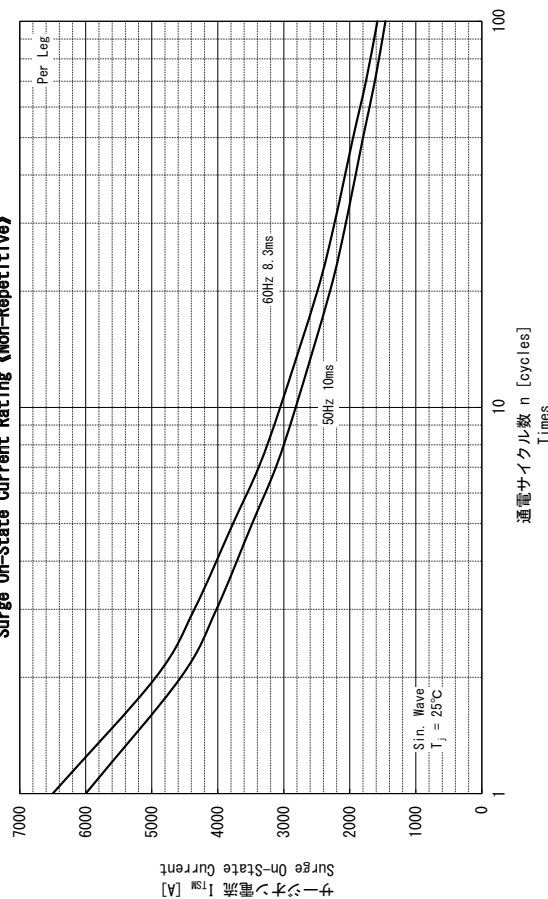
SCA200DB, SCE200DB
オン状態特性
On-State Characteristics



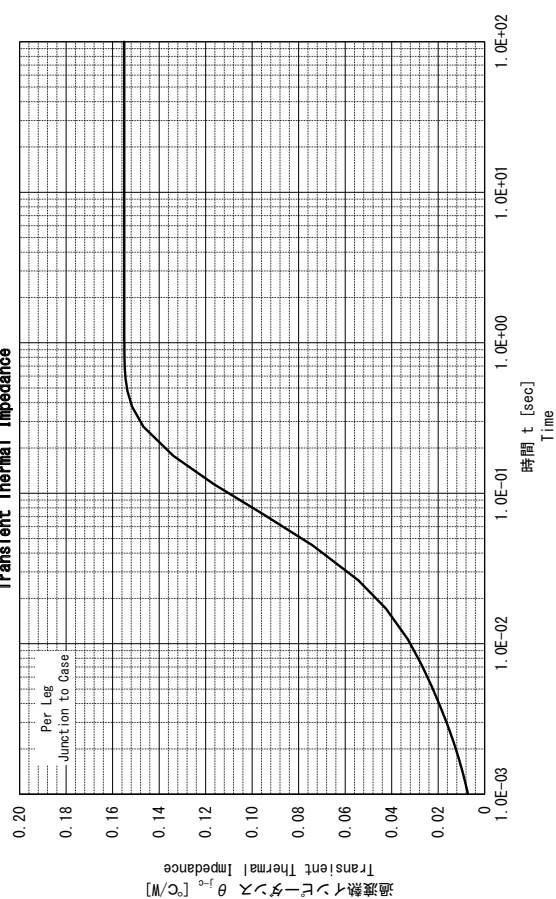
SCA200DB, SCE200DB
ゲート特性
Gate Characteristics



SCA200DB, SCE200DB
サージオン電流耐量《非繰り返し》
Surge On-State Current Rating 《Non-Repetitive》

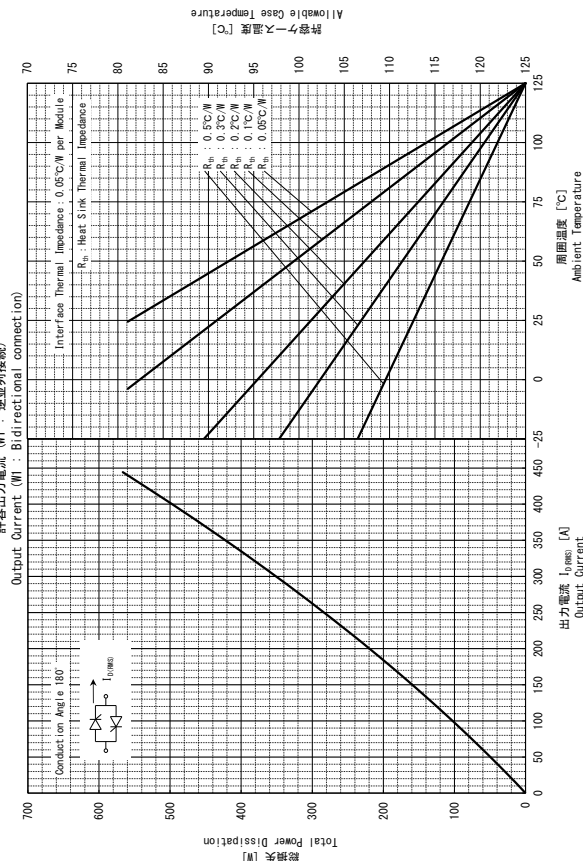


SCA200DB, SCE200DB
過渡熱インピーダンス特性
Transient Thermal Impedance



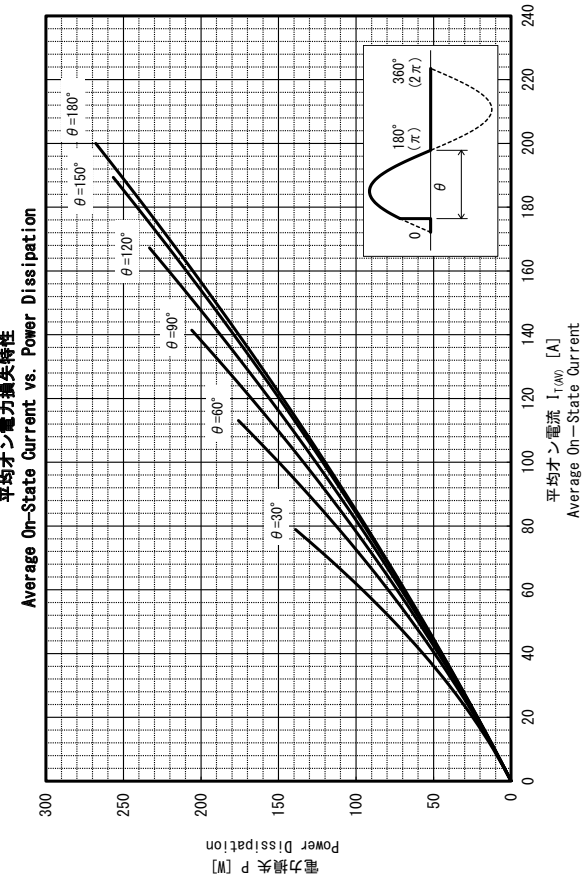
SCA200DB, SCE200DB

許容出力電流 (B1 : 逆並列接続)



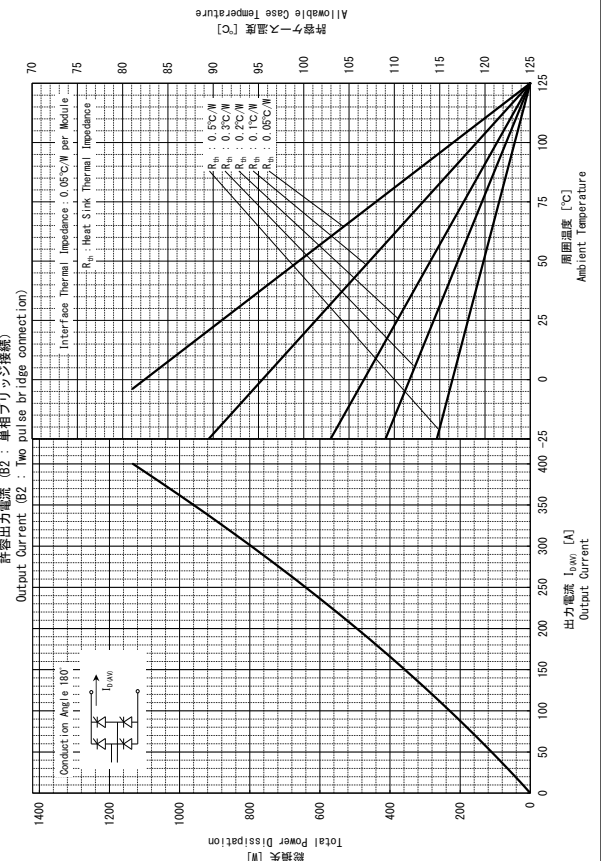
SCA200DB, SCE200DB

平均オン電力損失特性



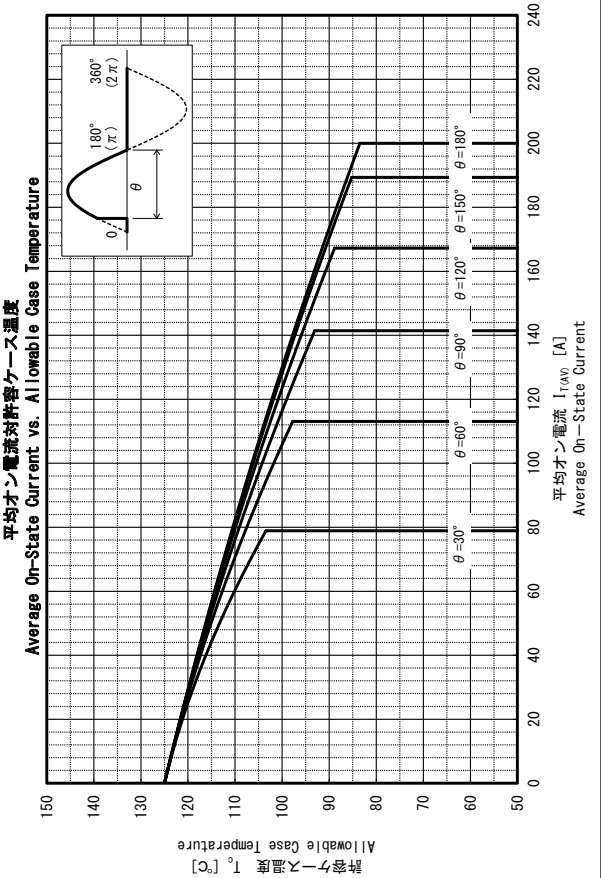
SCA200DB, SCE200DB

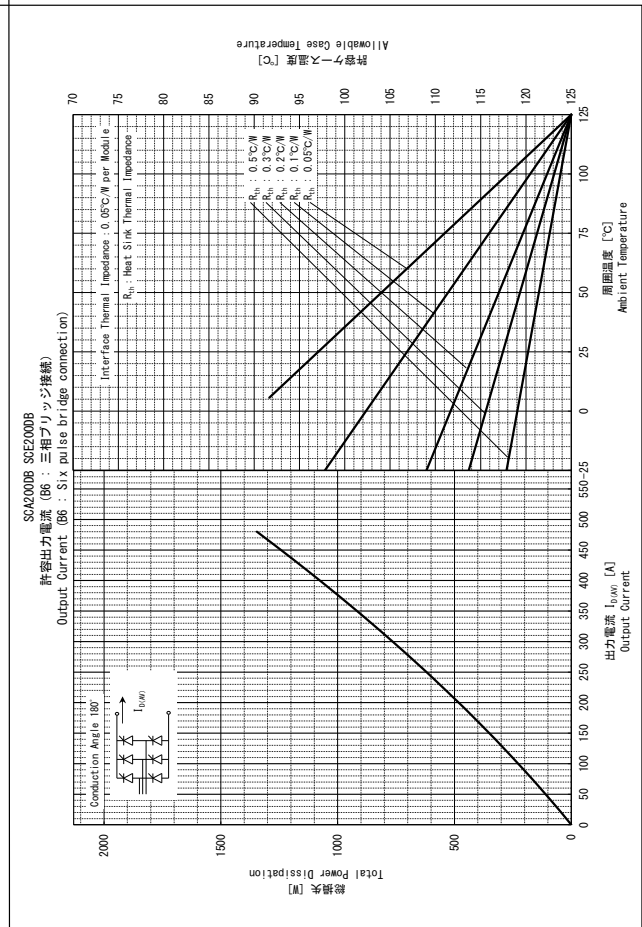
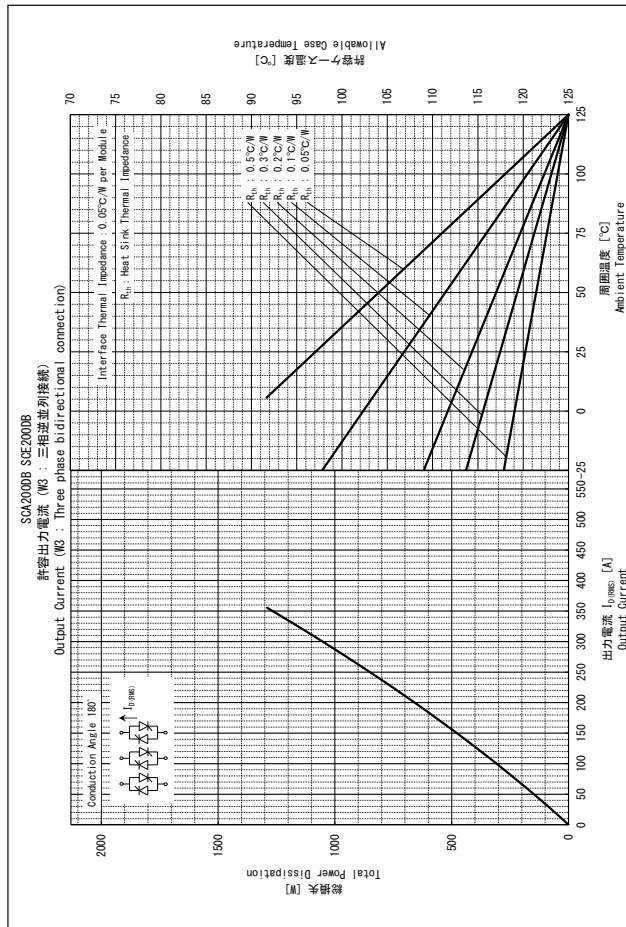
許容出力電流 (B2 : 単相ブリッジ接続)



SCA200DB, SCE200DB

平均オン電流許容ケース温度





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