

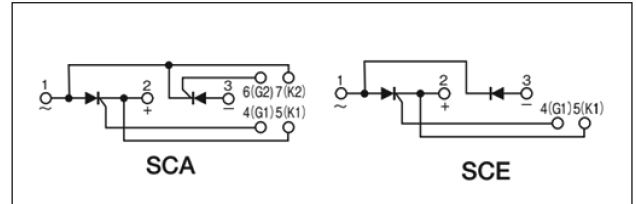
SCA(SCE)160DB

UL:E76102



Same package as the product in this photo.

$V_{RRM}, V_{DRM} = 800V/1600V$
 $I_{T(AV)}, I_{F(AV)} = 160A$

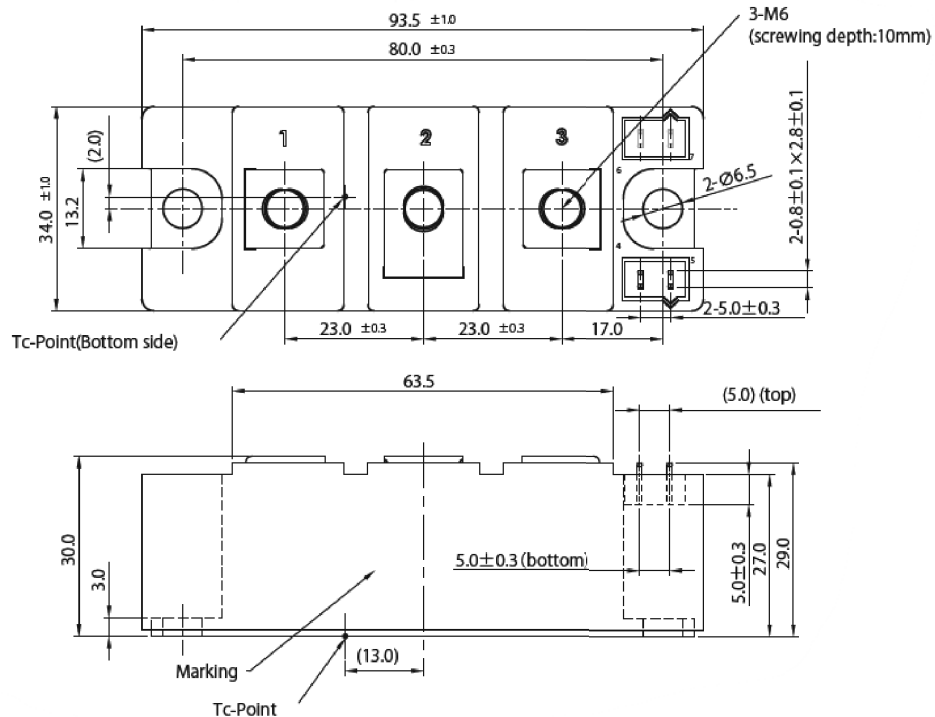


Features and Advantages

- 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 (Tj=25°C unless otherwise specified)

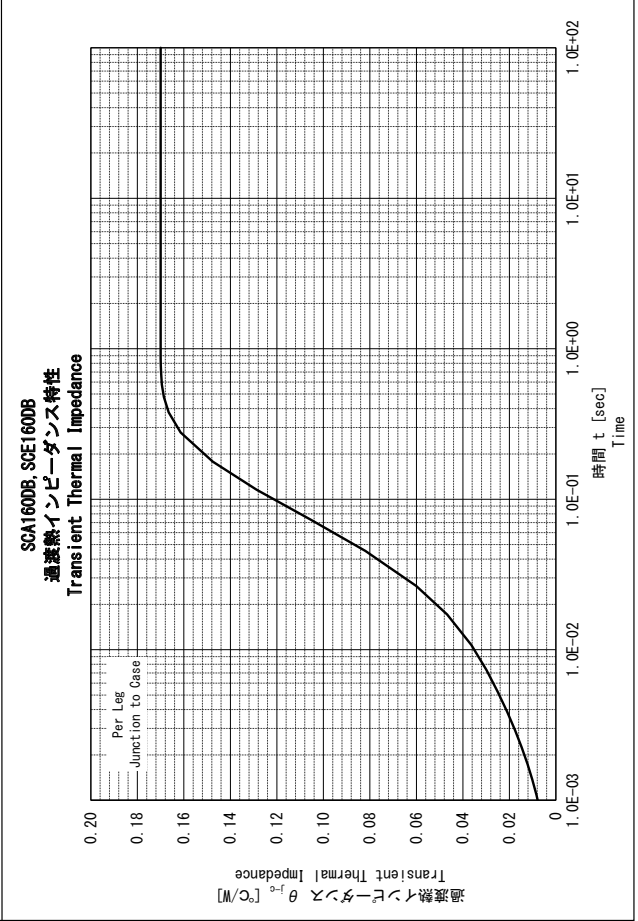
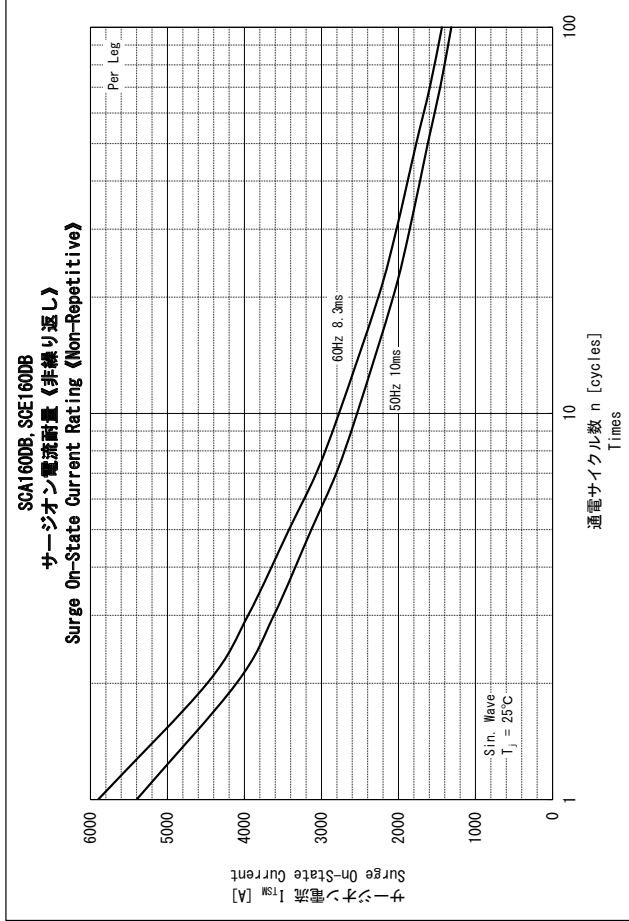
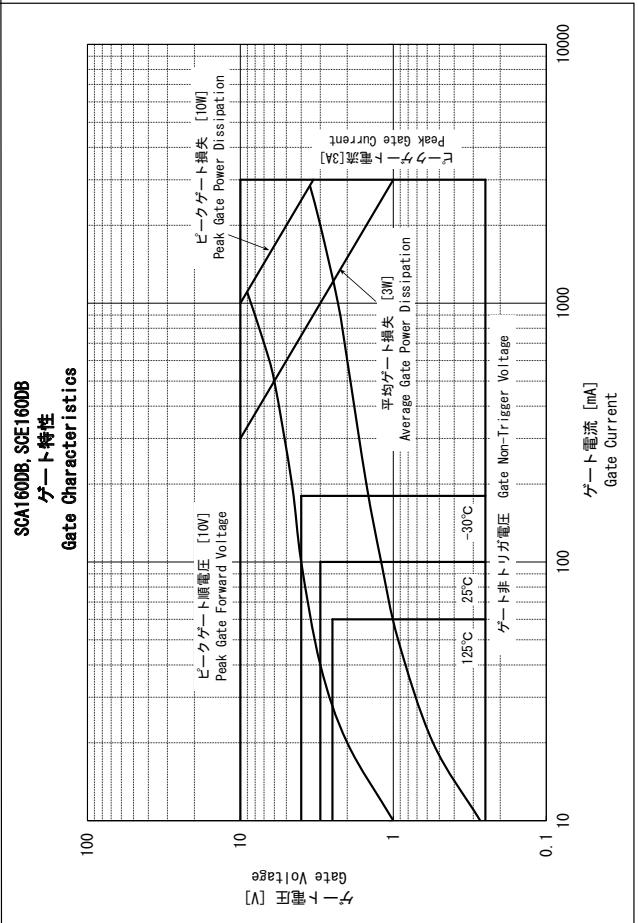
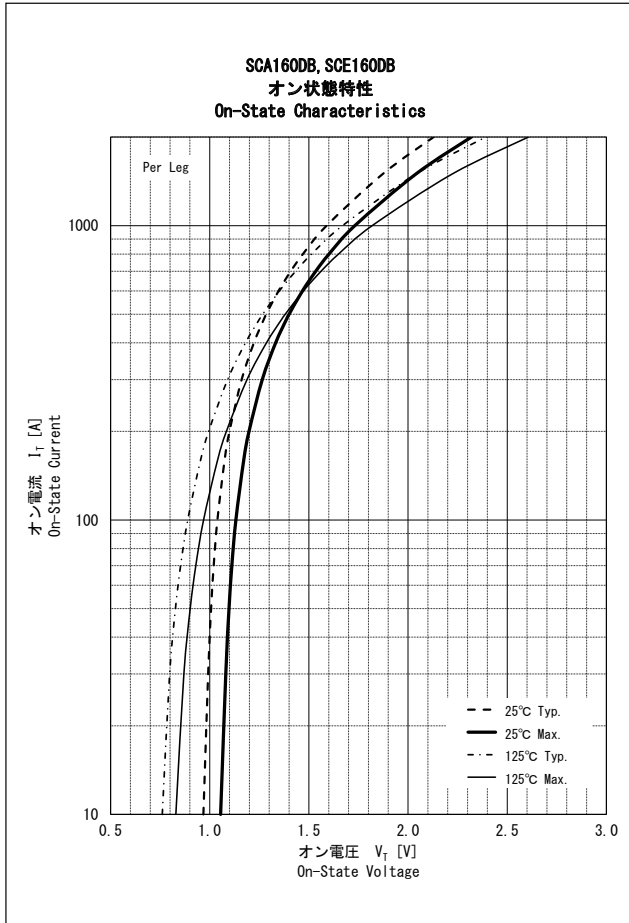
Item	Symbol	Unit	SCA160DB80 SCE160DB80	SCA160DB160 SCE160DB160
*Repetitive Peak Reverse Voltage	V _{RRM}	V	800	1600
*Non-Repetitive Peak Reverse Voltage	V _{RSM}	V	960	1700
Repetitive Peak Off-State Voltage	V _{DRM}	V	800	1600
Non-Repetitive Peak Off-State Voltage	V _{DSM}	V	960	1700

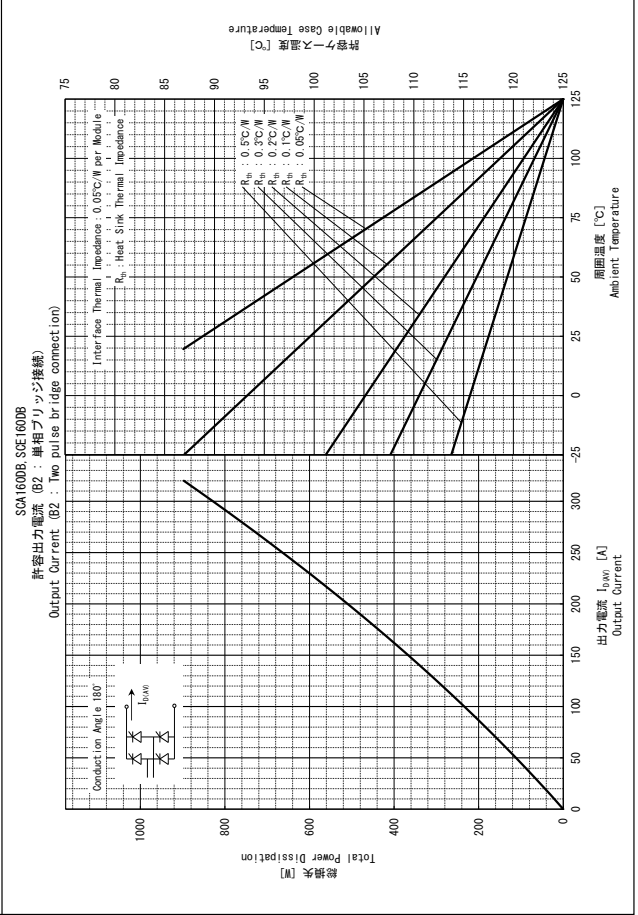
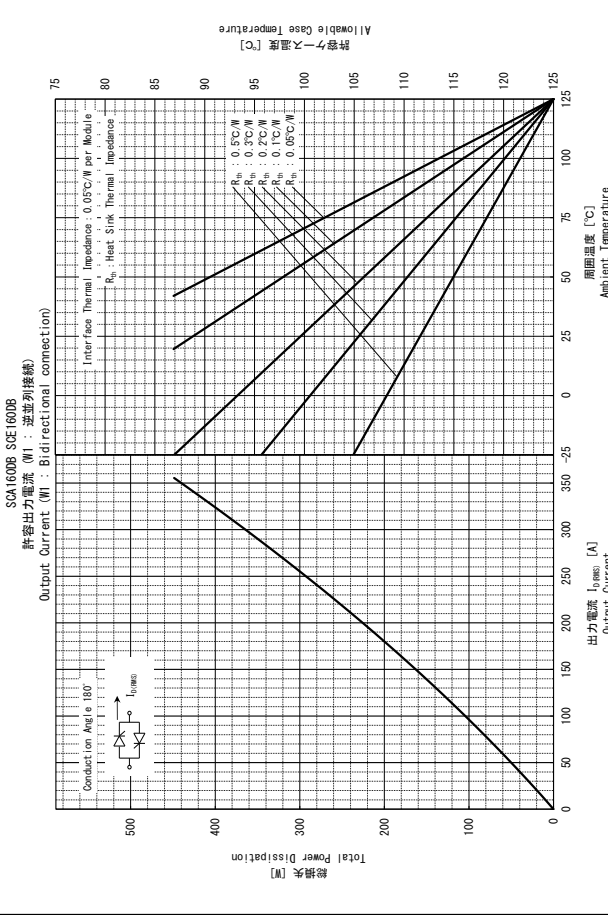
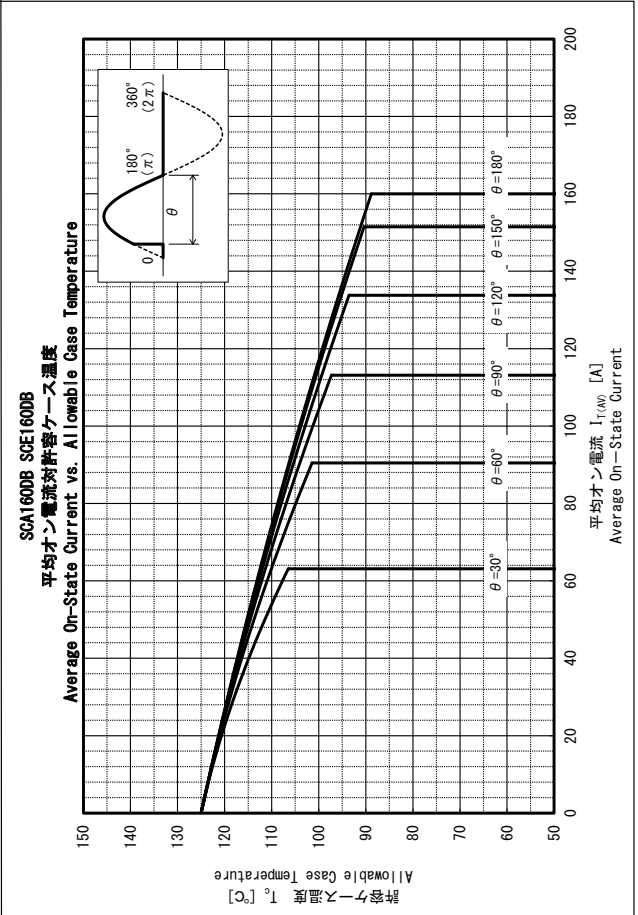
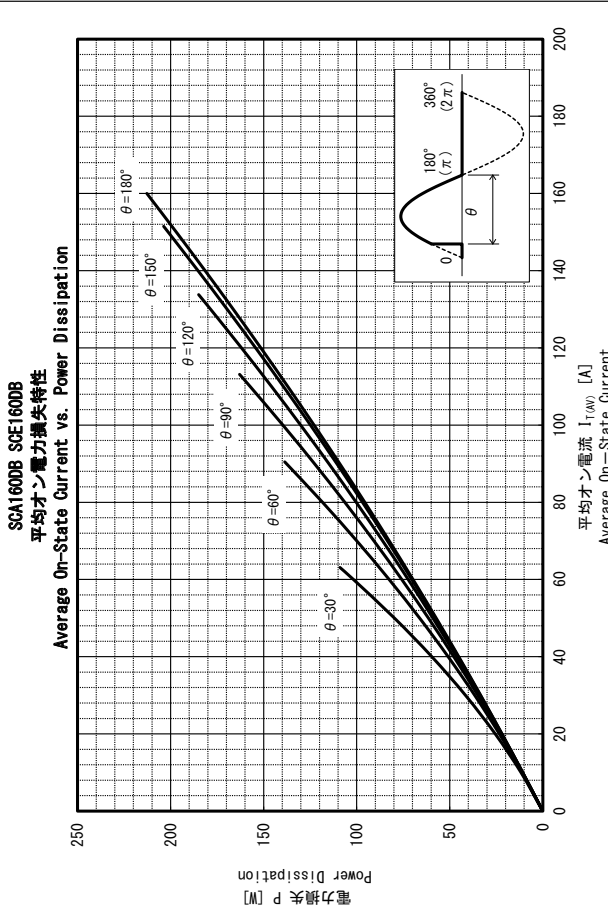
Item	Symbol	Unit	Ratings	Conditions
*Average On-State Current	I _{T(AV)} , I _{F(AV)}	A	160	Sin.180° ,Tc=88°C
*R.M.S. On-State Current	I _{T(RMS)} , I _{F(RMS)}	A	251	Sin.180° ,Tc=88°C
*Surge On-State Current	I _{TSM} , I _{FSM}	A	5400/5900	50Hz 10ms/60Hz 8.3ms Sin.Wave, Peak Value, Non-Repetitive
*I ² t (for fusing)	I ² t	A ² s	145000	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	Tj=Tjmax, 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	°C	-40~+125	
*Storage Temperature	T _{stg}	°C	-40~+125	
Mounting Torque	Mounting (M6)	-	4.7	Recommended Value 2.5~3.9(25~40)
	Terminal (M6)	-	4.7	Recommended Value 2.5~3.9(25~40)
Weight	-	g	190	Typical Value

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

Item	Symbol	Unit	Ratings			Conditions
			Min.	Typ.	Max.	
*Reverse Current	I _R	mA			100	Tj=Tjmax, V _R =V _{RRM} , Per Leg
Off-State Current	I _D	mA			100	Tj=Tjmax, V _D =V _{DRM} , Per Leg
*On-State Voltage	V _T , V _F	V			1.4	I _T =500A, Per Leg
*Threshold Voltage	V _(TO)	V			1.06	Tj=25°C
					0.88	Tj=Tjmax
					0.67	Tj=25°C
*Forward Slope Resistance	r _T	mΩ			1.00	Tj=Tjmax
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			Tj=Tjmax, V _D =1/2V _{DRM}
Turn-On Time	t _{gt}	μs			10	V _D =1/2×V _{DRM} , I _T =160A, I _G =100mA, dI _G /dt=0.1A/μs
Critical Rate of Rise of Off-State Voltage	dv/dt	V/μs	1000			Tj=Tjmax, 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			0.17	Junction to Case (Per Leg)
*Effective Thermal resistance	R _{th(j-c)}	°C/W			0.18	sin.180° , Junction to case ,per one element
					0.19	rec.120° , Junction to case ,per one element
*Interface Thermal resistance	R _{th(c-f)}	°C/W			0.1	Case to Fin (Per Module) Thermal conductivity (Si grease) =9×10 ⁻³ [W/cm·°C]

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

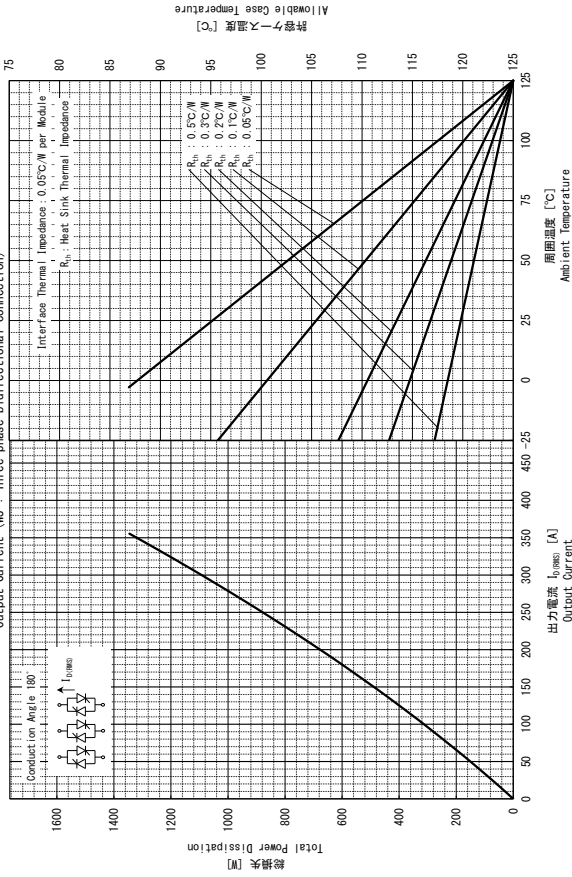




SCA160DB, SCE160DB

許容出力電流 (B3 : 三相逆並列接続)

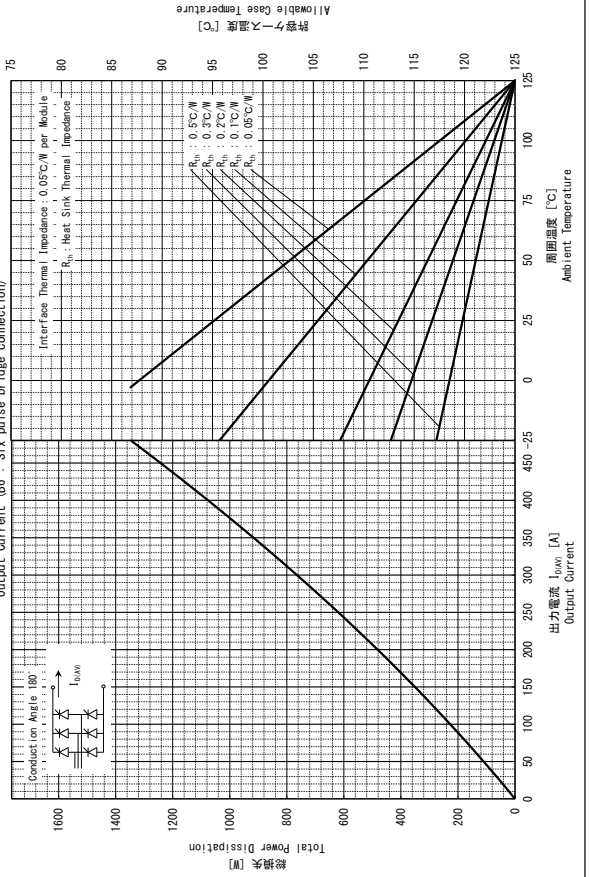
Output Current (B3 : Three phase bidirectional connection)



SCA160DB, SCE160DB

許容出力電流 (B6 : 三相ブリッジ接続)

Output Current (B6 : Six pulse bridge connection)



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