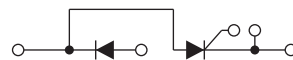


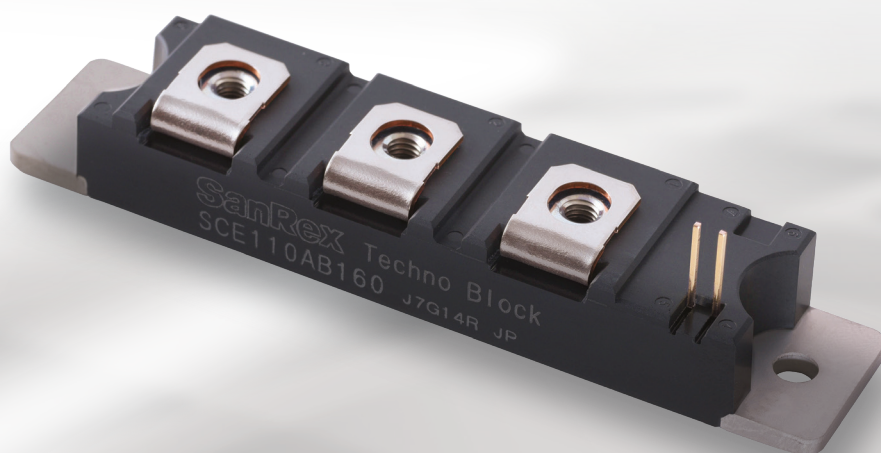
Diode Thyristor Module

Techno Block series
SCE110AB160 (110A/1600V)



Applications

- ▶ Inverters
- ▶ Servo Controller
- ▶ Power Controller
- ▶ Rectifier
- ▶ Inrush Current Prevention Circuit

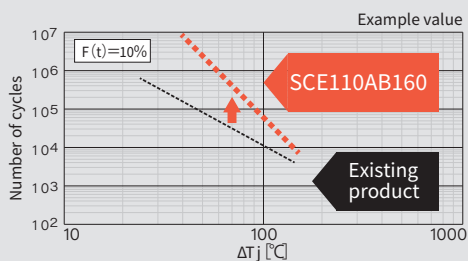


Features

- The “Techno Block” series is our original semiconductor module featuring great heat dissipation and transfer molding packaging.

Power Cycle Reliability Data

SCE110AB160 vs. Existing product



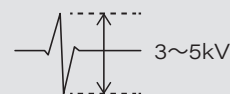
Power cycle capability (Long-term reliability) is 3 times better than before thanks to the use of “Transfer Molding Package” (at $\Delta T_j = 100^\circ\text{C}$)

Lightning Surge Resistance (example)

Original gate chip design
(SCE110AB160)



Conventional gate chip
(our product)



New and unique gate design for higher di/dt tolerance.
(comparison with our existing model)

- Compact design: our new module is 50% smaller than our existing product (110A rating)

- 14 mm height: isolated, low profile package

- Both thyristor and diode can operate at $T_j = 150^\circ\text{C}$



Maximum Ratings

T_j = 25°C unless otherwise specified

Item	Symbol	Unit	SCE110AB160
Repetitive Peak Reverse Voltage	V _{RRM}	V	1600
Repetitive Peak Off-state Voltage	V _{DRM}	V	1600

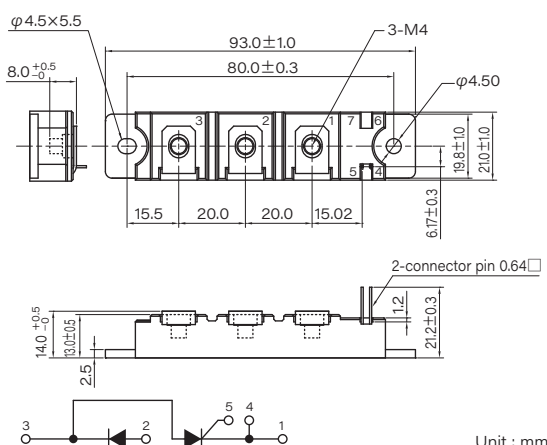
Item	Symbol	Unit	Ratings	Conditions
*Average On-state Current	I _{T(AV)} I _{F(AV)}	A	110	Single phase, half wave, 180°conduction T _c =89°C
*Surge On-state Current	I _{TSM} I _{FSM}	A	2100/2300	1/2 cycle, 50/60Hz, Peak value, Non-repetitive
*I ² t (for fusing)	I ² t	A ² s	22000	Value for one cycle of surge current
Critical Rate of Rise of On-state Current	di/dt	A/μs	700	
*Isolation Voltage	V _{ISO}	V	2500	Terminals to Case, AC RMS 1minute
*Operating Junction Temperature	T _j	°C	-40 to +150	

Electrical Characteristics

T_j = 25°C unless otherwise specified

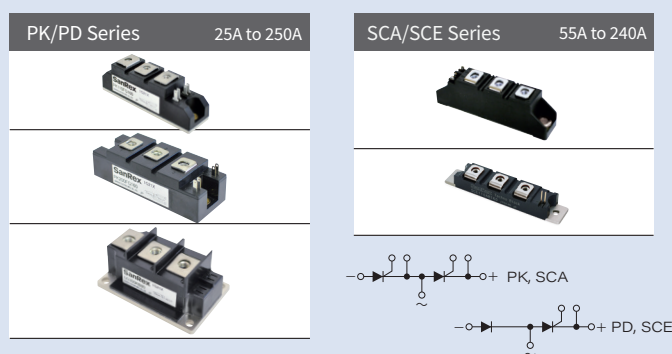
Item	Symbol	Unit	Ratings	Conditions
*On-state Voltage	V _{TM} V _{FM}	V	2	On-state Current 300A Inst. measurement
Gate Trigger Current	I _{GT}	mA	150	I _T =1A, V _D =6V
Gate Trigger Voltage	V _{GT}	V	3.2	I _T =1A, V _D =6V
Critical Rate of Rise of Off-state Voltage	dv/dt	V/μs	1000	T _j =150°C, V _D =2/3V _{DRM} , Exponential wave
*Thermal Resistance	R _{th(j-c)}	°C/W	0.28	Junction to Case (Per Chip)

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



Other products

Thyristor/Diode /PK/PD/SCA/SCE SERIES



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- Appearance and specifications of products are subject to change without notice for improvement reasons.

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