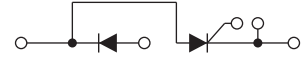


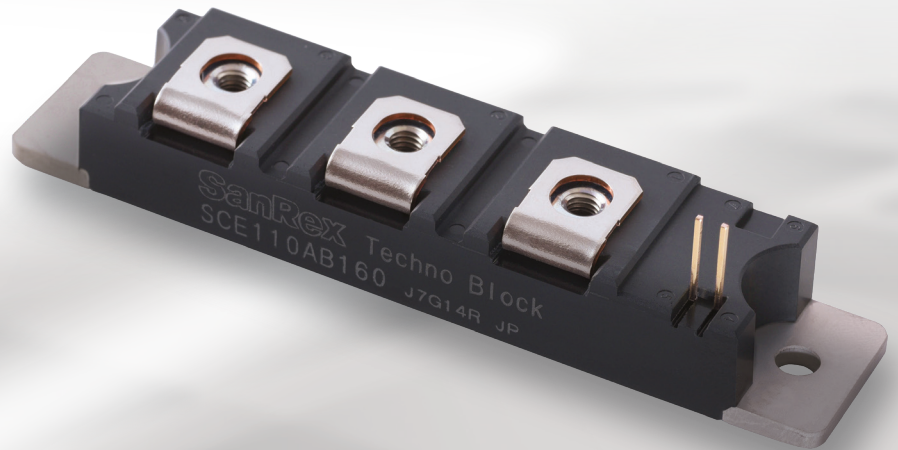
Diode Thyristor Module

“Techno Block” series
SCE110AB160 (110A/1600V)



Applications

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

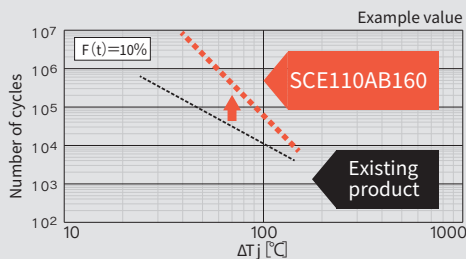


Features

■ “Techno Block” is our original semiconductor package that use transfer molding and both side solder process, achieving small footprint and excellent heat dissipation

Power Cycle Reliability Data

SCE110AB160 vs. Existing product



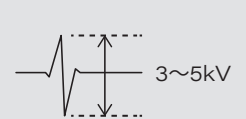
Power cycle capability (Long-term reliability) is 3 times better than before thanks to the use of “Transfer Molding Package” (at $\Delta T_j=100^\circ\text{C}$)

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

Tj = 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

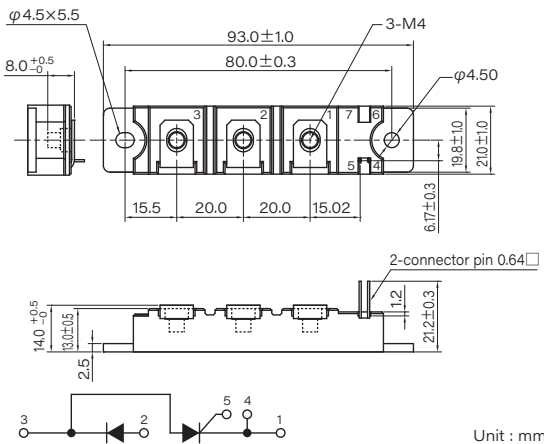
Item	Symbol	Unit	Ratings	Conditions
*Average On-state Current	I _{T(AV)} I _{F(AV)}	A	110	Single phase, half wave, 180°conduction angle Tc=89°C
*Surge On-state Current	I _{TSM} I _{FSM}	A	2100/2300	1/2 cycle, 50/60Hz, Peak value, Non-repetitive
*I ² t (for fusing)	I ² t	A ² s	22000	Value for one cycle 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

Tj = 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 _r =1A, V _D =6V
Gate Trigger Voltage	V _{GT}	V	3.2	I _r =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

PK/PD series	25A to 250A	SCA/SCE series	55A to 240A
25/45/70/ 90/110/130 A		55/70/90/110 A	
160/200 A		160/200/240 A	
250 A			

Unit : mm

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

SANSHA ELECTRIC MFG. CO., LTD.



URL: <https://www.sansha.co.jp/>

Head Office (International Sales Department)	TEL: +81-6-6325-6621	FAX: +81-6-6325-0503
Tokyo Branch	TEL: +81-3-3834-1700	FAX: +81-3-3834-1702
Chubu Sales Office	TEL: +81-52-955-5600	FAX: +81-52-955-5650
Kyushu Sales Office	TEL: +81-92-431-7586	FAX: +81-92-474-9643
Hokuriku Office	TEL: +81-76-293-1725	FAX: +81-76-293-1881

Helsinki Branch (Finland)
Atomitie 5, Helsinki, 00370, Finland
TEL: +358-40-1668580 E-mail: info@sanrex.fi

Seoul Branch (Korea)
#706, 6, Samseong-ro 96-gil, Gangnam-gu Seoul
06168 Korea
TEL: +82-2-552-2803 FAX: +82-2-552-8441

Taipei Branch (Taiwan)
8F-3, No.46, Chung Shan N. Road, Sec. 2, Taipei,
Taiwan, R.O.C.
TEL: +886-2-2543-5689 FAX: +886-2-2536-7876

SANSHA SOLUTION SERVICE CO., LTD. (Japan)
TEL: +81-6-6321-0616 FAX: +81-6-6321-0618
Service branches: Osaka, Tokyo, Nagoya, Fukuoka

SUWA SANSHA ELECTRIC CO., LTD. (Japan)
TEL: +81-266-82-6600 FAX: +81-266-73-3322
<https://www.suwa.sansha.co.jp/>

SANREX CORPORATION (U.S.A.)
TEL: +1-516-625-1313 FAX: +1-516-625-8845
<https://www.sanrex.com/>

SANREX ASIA PACIFIC PTE. LTD. (Singapore)
TEL: +65-6457-8867 FAX: +65-6459-6425
<https://www.sanrex.sg/>

SANREX LIMITED (Hong Kong)
TEL: +852-2744-1310 FAX: +852-2785-6009

SANSHA ELECTRIC MFG. (SHANGHAI) CO., LTD. (China)
TEL: +86-21-5868-1058 FAX: +86-21-5868-1056

SANSHA ELECTRIC MFG. (GUANGDONG) CO., LTD. (China)
TEL: +86-757-2733-3688 FAX: +86-757-2783-3547
<http://www.sanrex.cn/>

DONGGUAN EASTERN ELECTRONICS CO., LTD. (China)
TEL: +86-769-8733-8301 FAX: +86-769-8733-8306