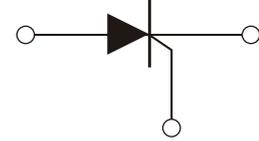


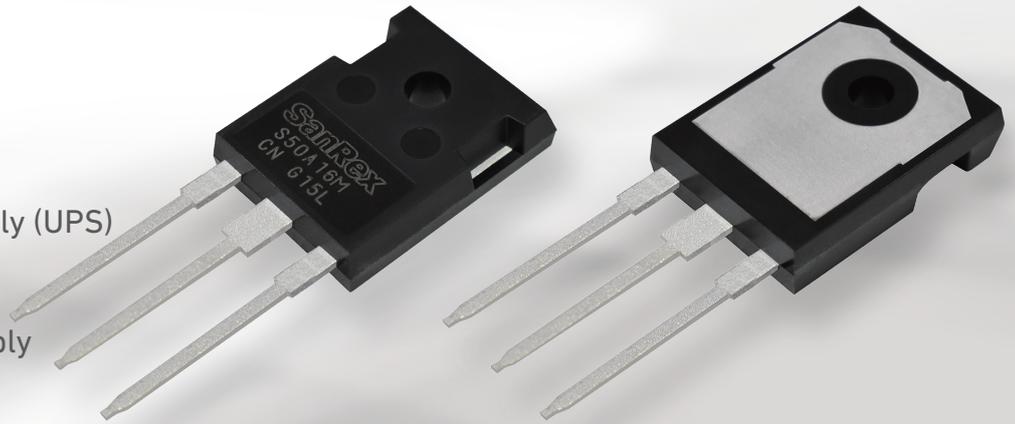
TO-247 Single Thyristor

SMG50A160M / SMG80A160M
(50A • 80A / 1600V)



Applications

- ▶ Uninterruptible Power Supply (UPS)
- ▶ Power Controller
- ▶ Softstart AC Motor Control
- ▶ Switching Mode Power Supply
- ▶ Motor Inverter



Features

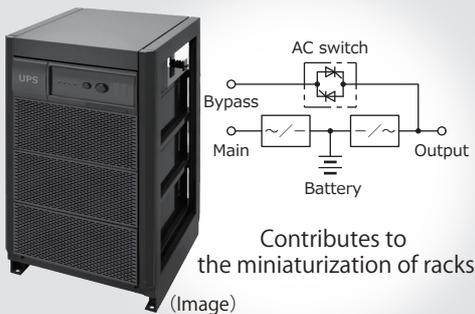
- Low loss (LowVT)
- Improved surge current withstand voltage
- Reduced thermal resistance (high heat dissipation)
- Non-insulated type

■ Newly developed chip with optimized shape to maximize package space.

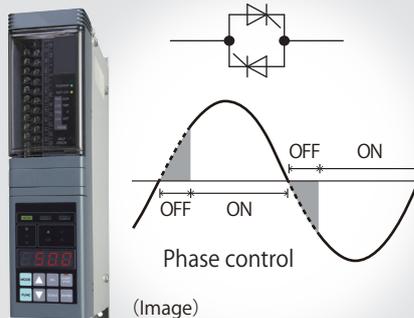
	I_T	V_{RRM}	V_T (max)	I_{TSM}	$R_{th(j-c)}$ (max)
SanRex	80A	1600V	1.35V	1200A	0.17°C/W
Company A	80A	1600V	1.47V	780A	0.2°C/W

※Tj=25°C I=80A

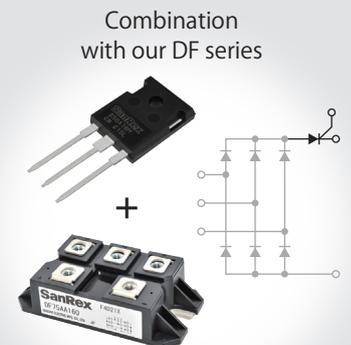
Examples of use



▶ AC Switch for UPS



▶ Power Controller



▶ DC Switch for Inrush Prevention Circuit

Maximum Ratings

T_j=25°C unless otherwise specified

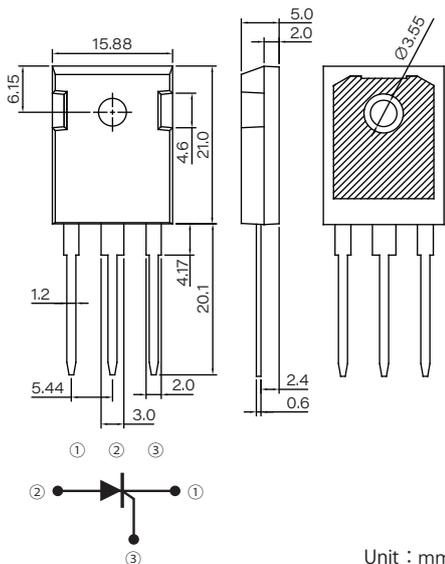
Item	Symbol	Unit	SMG50A160M	SMG80A160M
Repetitive Peak Reverse Voltage	V _{RRM}	V	1600	1600
Non-Repetitive Peak Reverse Voltage	V _{RSM}	V	1700	1700

Item	Symbol	Unit	Rating		Conditions
Average On-State Current	I _{T(AV)}	A	50	80	Sin.180°, TC=103°C (SMG50A)/TC=101°C (SMG80A)
R.M.S. On-State Current	I _{T(RMS)}	A	79	126	
Surge Forward Current	I _{TSM}	A	750/830	1095/1200	50/60Hz Sin.Wave, Peak Value, Non-Repetitive
Critical Rate of Rise of On-State Current	di/dt	A/μs	500		T _j =125°C, I _G =100mA, V _D >1/2V _{DRM} , dI _G /dt=0.1A/μs
Operating Junction Temperature	T _j	°C	-40 ~ +125		

Electrical Characteristics

T_j=25°C unless otherwise specified

Item	Symbol	Unit	Rating						Conditions
			SMG50A160M			SMG80A160M			
			Min.	Typ.	Max.	Min.	Typ.	Max.	
On-State Voltage	V _T	V		1.19	1.35		1.20	1.35	I _T =50A (SMG50A) / I _T =80A (SMG80A)
				1.66	1.86		1.65	1.87	I _T =150A (SMG50A) / I _T =240A (SMG80A)
Gate Trigger Current	I _{GT}	mA	10	30	100	10	30	100	I _T =1A, V _D =6V
Thermal Resistance	R _{th(j-c)}	°C/W			0.25			0.17	Junction to Case



Other Products

SMG/SG series	SCA/SCE series	PK/PD series	SBA/SBB/SSA series

- SanRex is a trademark or a registered trademark of Sansha Electric Manufacturing Co., Ltd.
- Appearance and specifications of products are subject to change without notice for improvement reasons.

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