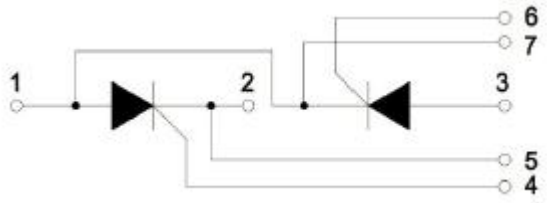
Technical Data
Data Sheet N2244, Rev. C

SSKT160-08 Thyristor Modules, 160A

T2-1

Circuit Diagram



Features

- **Blocking voltage: 800V**
- **Heat transfer through aluminum oxide DBC**
- **Ceramic isolated metal baseplate**
- **Industrial standard package**
- **Thick copper baseplate**
- **2500 VRMS isolating voltage**
- **UL approved file E517293**

Typical Applications

- **Power Converters**
- **DC motor Control and Drives**
- **Temperature control**
- **Lighting control**

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristics	Symbol	Condition			Max.	Units
Storage junction temperature range	T_{stg}	-			-40 - 125	℃
Operating junction temperature range	T_j	-			-40 - 125	℃
Repetitive peak reverse voltage	V_{RRM}/V_{DRM}	-			800	V
Non-Repetitive peak reverse voltage	V_{RSM}/V_{DSM}	-			900	V
Average On-State Current	I_{TAV}	Sine 180℃;T_C=85℃			160	A
Surge forward current	I_{TSM}	t=10ms	No voltage reapplied	Sine half wave Initial T_J=T_J maximum	5000	A
		t=8.3ms			5300	
		t=10ms	100% V_{RRM} reapplied		4200	
		t=8.3ms			4400	
Maximum I^2t for fusing	I^2t	t=10ms	No voltage reapplied		125	KA^2s
		t=8.3ms			104	
		t=10ms	100% V_{RRM} reapplied		88	
		t=8.3ms			80	
Isolation Breakdown Voltage(R.M.S)	Visol	$A_{C.}$ 50HZ; R.M.S.; 1min			2500	V
		Ac.50HZ; R.M.S; 1sec			3500	
Mounting Torque	Mt	To terminals(M6)			5±10%	Nm
	Ms	To heatsink(M6)			5±10%	
Maximum critical rate of rise of off-state voltage	dV/dt	T_J =125℃,V_D=2/3V_{DRM}			1000	V/μs
Module(Approximately)	Weight				160	g

Technical Data
Data Sheet N2244, Rev. C

RoHS

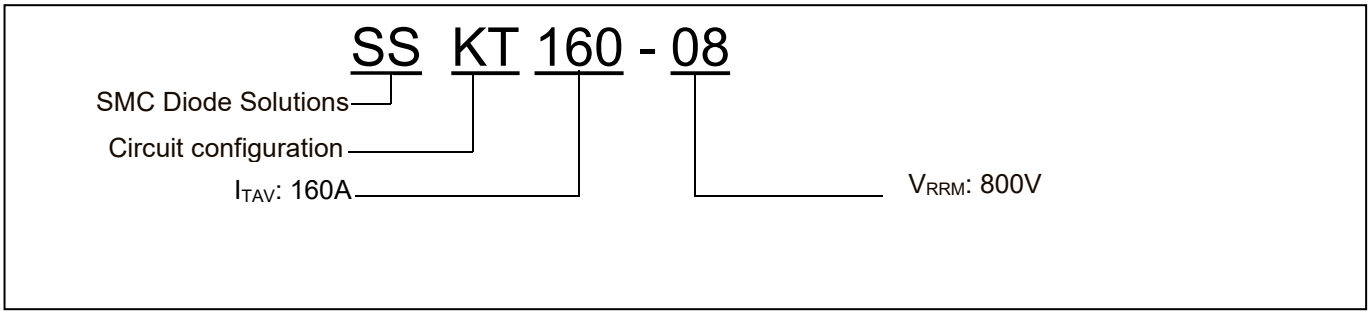
Electrical Characteristics(Tj=25℃ unless otherwise specified)

Parameters	Symbol	Test Condition		Typ.	Max.	Unit
Maximum Repetitive Peak ReverseCurrent/ Maximum Repetitive Off-state Current	I_{RRM}/ I_{DRM}	T_J=125℃ V_{RD}=V_{RRM}			40	mA
On state threshold voltage	V_{TO}	For power-loss calculations only TJ=125℃			0.85	V
Maximum Value of on-state slope resistance	r_T	T_J=125℃			1.5	mΩ
Maximum gate voltage required to trigger	V_{GT}	T_J= - 40℃	Anode supply=6V, resistive load; Ra=1Ω		4	V
		T_J=25℃			2.5	
		T_J=T_J Maximum			1.7	
Maximum gate current required to trigger	I_{GT}	T_J= - 40℃			300	mA
		T_J=25℃			150	
		T_J=T_J Maximum			80	
Maximum gate voltage that will not trigger	V_{GD}	T_J=T_J Maximum, rated V_{DRM} applied			0.2	V
Maximum gate voltage that will not trigger	I_{GD}	T_J=T_J Maximum, rated V_{DRM} applied			10	mA
Maximum Latching current	I_L	T_J=25℃, I_G=1.2I_{GT}		400	1000	mA
Maximum Holding current	I_H	T_J=25℃, I_T=50mA		200	400	mA
Gate controlled delay time	tgd	T_J=25℃, I_G=1A, diG/dt=1A/us		1		μs
Gircuit commutated turn-off time	tq	T_J=125℃		100		μs

Thermal Resistances

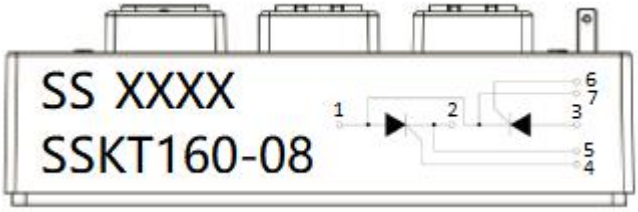
	Symbol	Condition	Values	Units
Maximum internal thermal resistance, junction to case	Rth(j-c)	Per thyristor/ Per module	0.17/0.085	℃/W
Typical thermal resistance, case to heatsink	$R_{th(C-S)}$	Per thyristor/ Per module	0.10/0.05	

Ordering Information



Technical Data
Data Sheet N2244, Rev. C

Marking Diagram



Where XXXXX is YYWW

SSKT160-08	= Part name
YY	= Year
WW	= Week

Ratings and Characteristics Curves

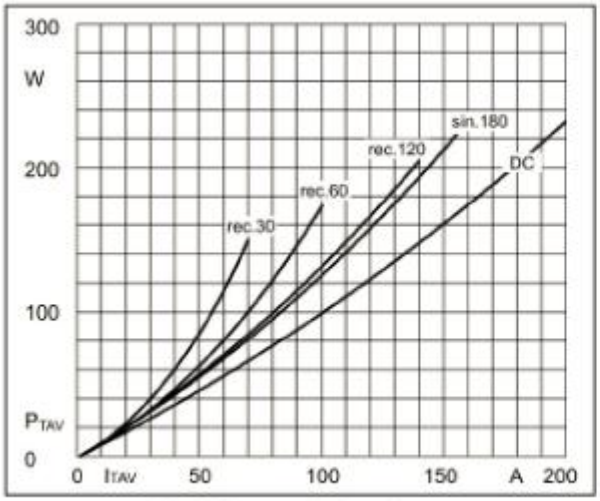


Fig1. Power dissipation

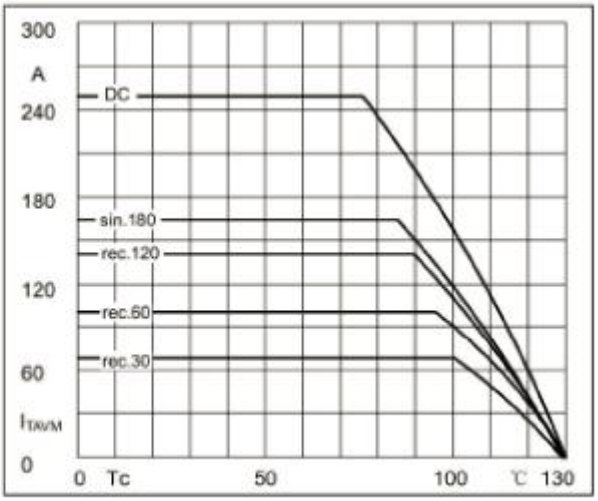


Fig2.Forward Current Derating Curve

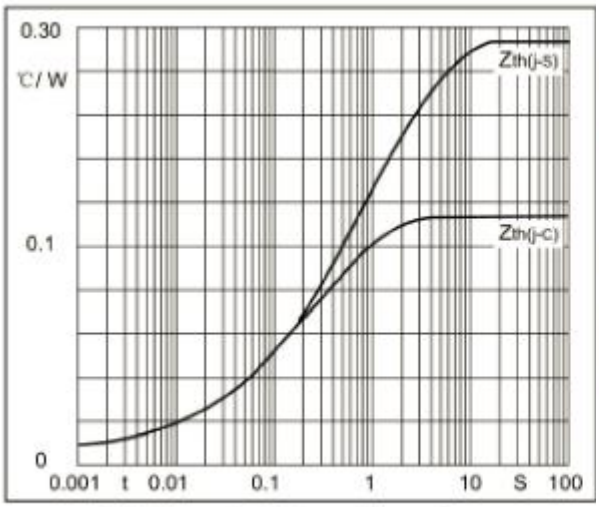


Fig3. Transient thermal impedance

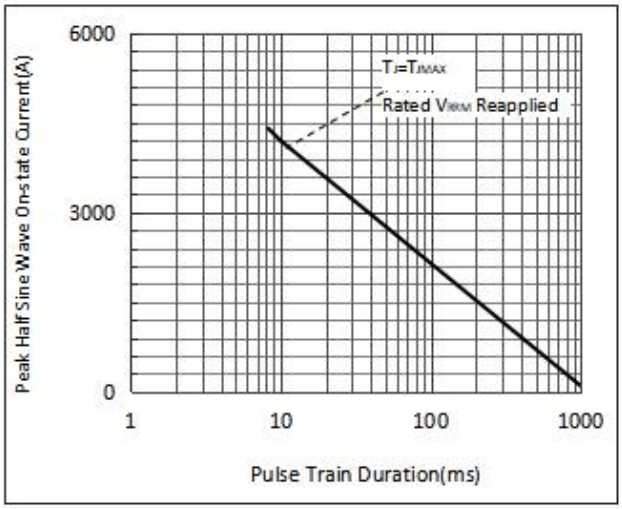


Fig4. Max Non-Repetitive Forward Surge Current

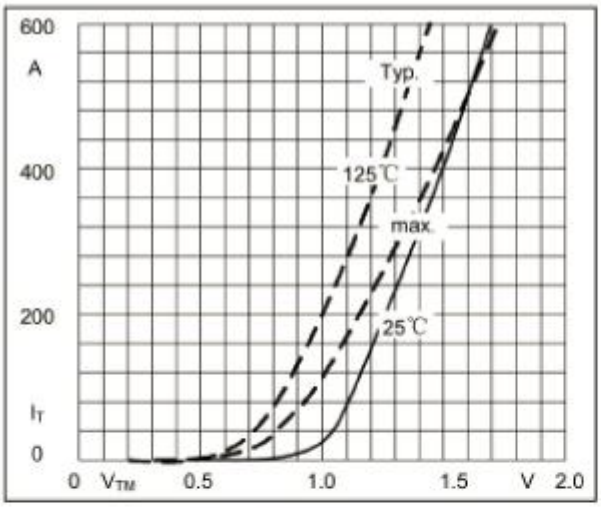


Fig5. Forward Characteristics

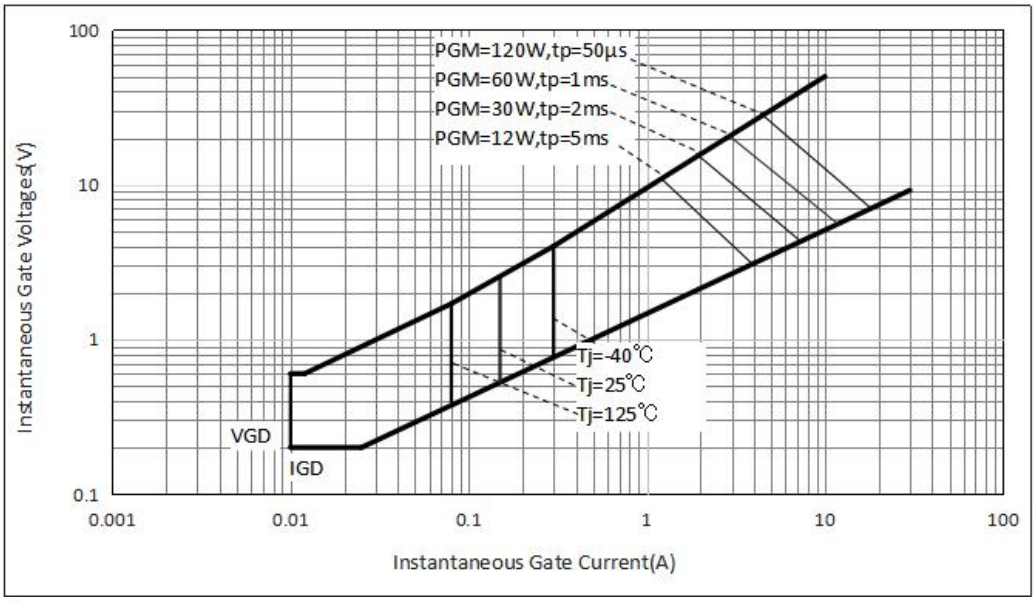
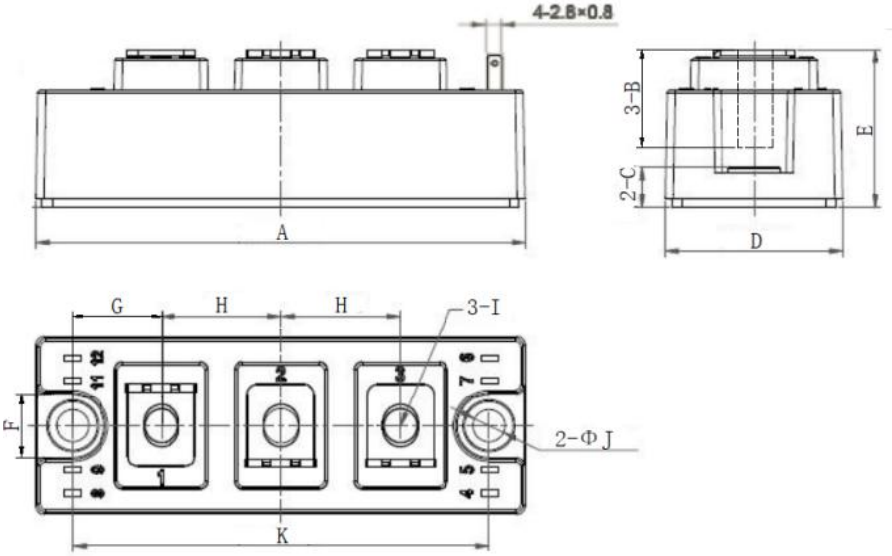


Fig6. Gate trigger Characteristics

Technical Data
Data Sheet N2244, Rev. C

Mechanical Dimensions T2-1



SYMBOL	Millimeters	
	Min.	Max.
A	93.7	94.3
B	7.6	-
C	7.7	8.3
D	33.7	34.3
E	30	31
F	12.2	-
G	16.8	17.2
H	22.8	23.2
I	M6	-
J	6.1	6.5
K	79.8	80.2

Technical Data
Data Sheet N2244, Rev. C

DISCLAIMER:
1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC Diode Solutions sales department for the latest version of the datasheet(s).
2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment , and safety equipment) , safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement .
3- In no event shall SMC Diode Solutions be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC Diode Solution assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
4- In no event shall SMC Diode Solutions be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC Diode Solutions.
6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC Diode Solutions.
7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..