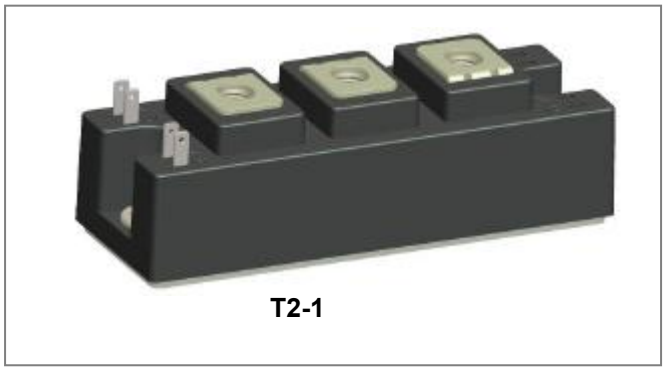
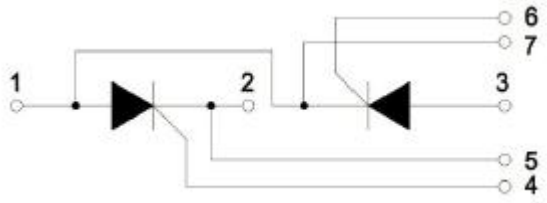
Technical Data
Data Sheet N2244, Rev.-

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**

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 off-state voltage(T_j=25℃)	V_{DRM}	-	800	V
Repetitive peak reverse voltage(T_j=25℃)	V_{RRM}	-	800	V
Average On-State Current	I_{TAV}	Sine 180℃;T_C=85℃	160	A
Surge forward current	I_{TSM}	t=10ms T_J=45℃	5400	A
		t=10ms T_J=125℃	5000	
Maximum I^2t for fusing	I^2t	t=10ms T_J=45℃	145000	A^2s
		t=10ms T_J=125℃	125000	
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(M5)	3±15%	Nm
	Ms	To heatsink(M6)	5±15%	
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

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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 T_J=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=25℃，V_D=6V		3.0	V
Maximum gate current required to trigger	I_{GT}	T_J=25℃，V_D=6V		150	mA
Maximum gate voltage that will not trigger	V_{GD}	T_J=125℃，V_D=2/3V_{DRM}		0.2	V
Maximum gate voltage that will not trigger	I_{GD}	T_J=125℃，V_D=2/3V_{DRM}		10	mA
Maximum Latching current	I_L	T_J=25℃，I_G=1.2I_{GT}	250	1000	mA
Maximum Holding current	I_H	T_J=25℃，I_T=1A	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

SS KT 160 - 08

- SS: SMC Diode Solutions
- KT: Circuit configuration
- 160: I_{TAV}: 160A
- 08: V_{RRM}: 800V

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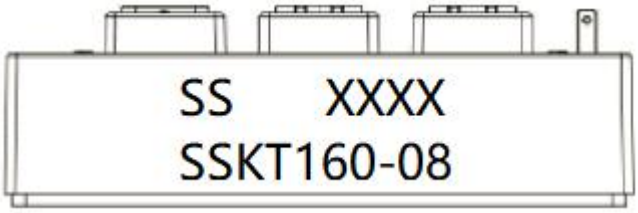
Marking Diagram



Where XXXXX is YYWW

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

Ratings and Characteristics Curves

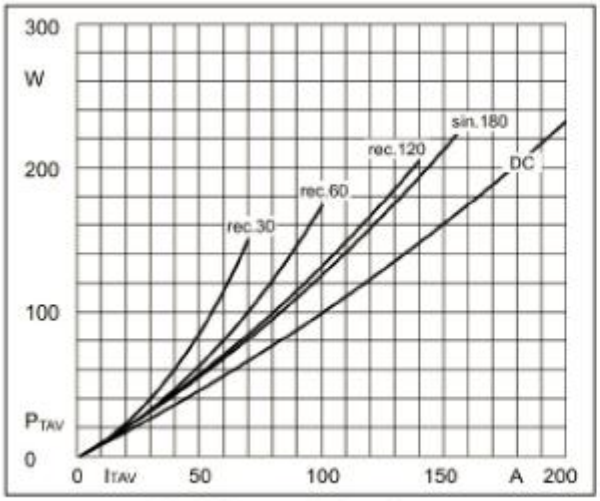


Fig1. Power dissipation

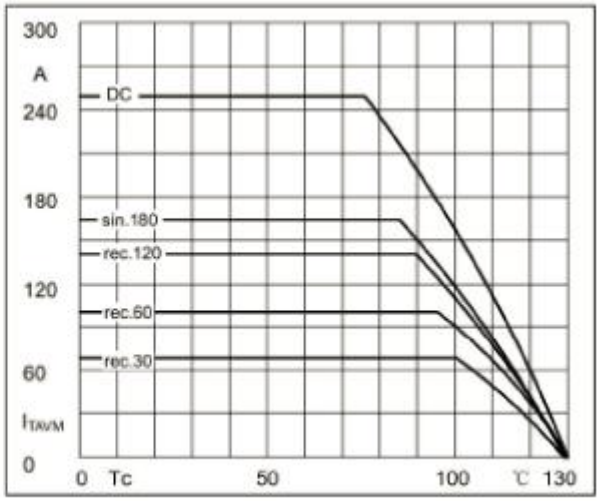


Fig2.Forward Current Derating Curve

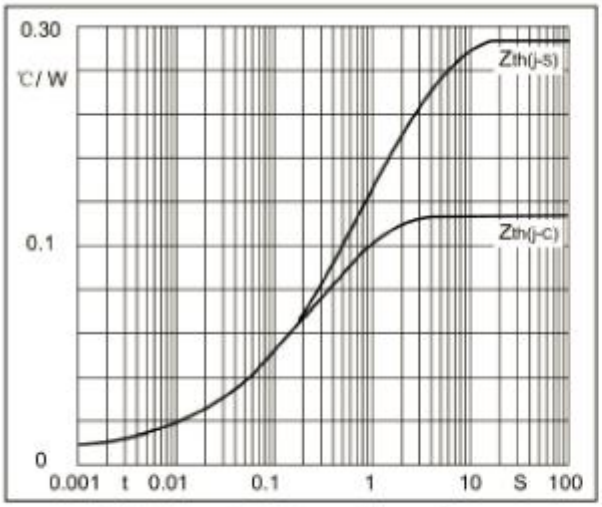


Fig3. Transient thermal impedance

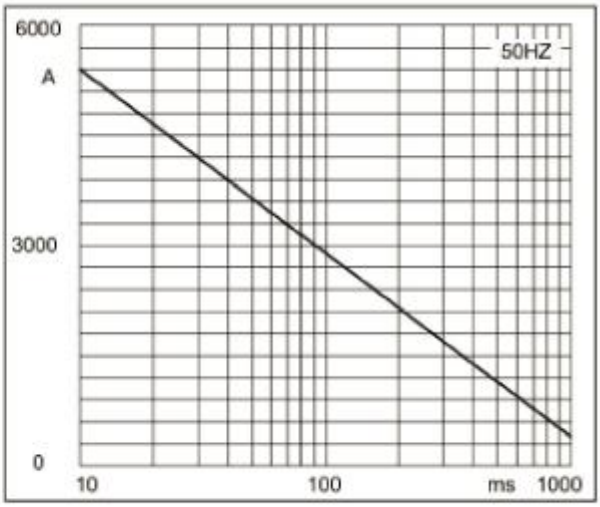


Fig4. Max Non-Repetitive Forward Surge Current

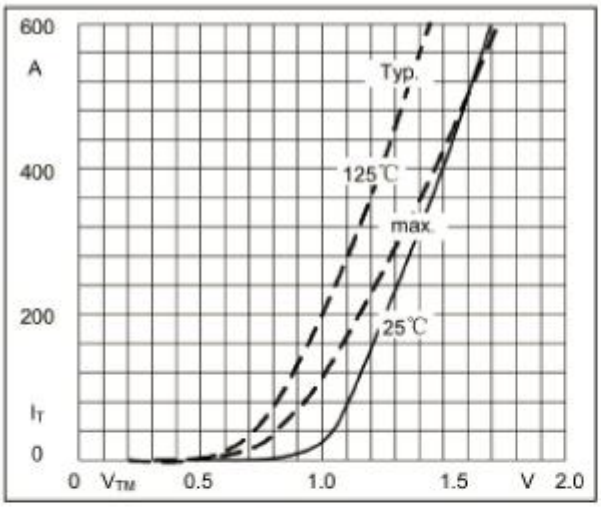


Fig5. Forward Characteristics

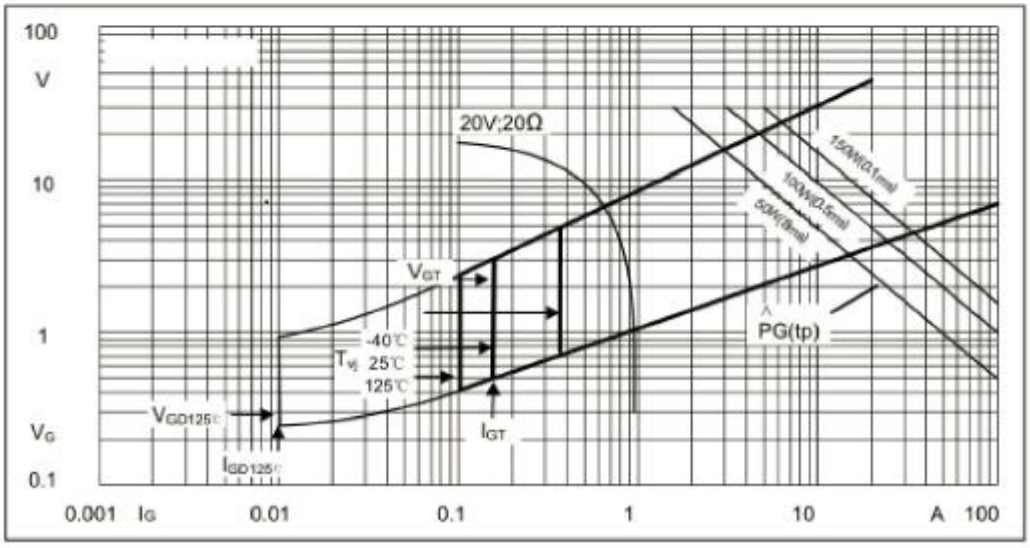


Fig6. Gate trigger Characteristics

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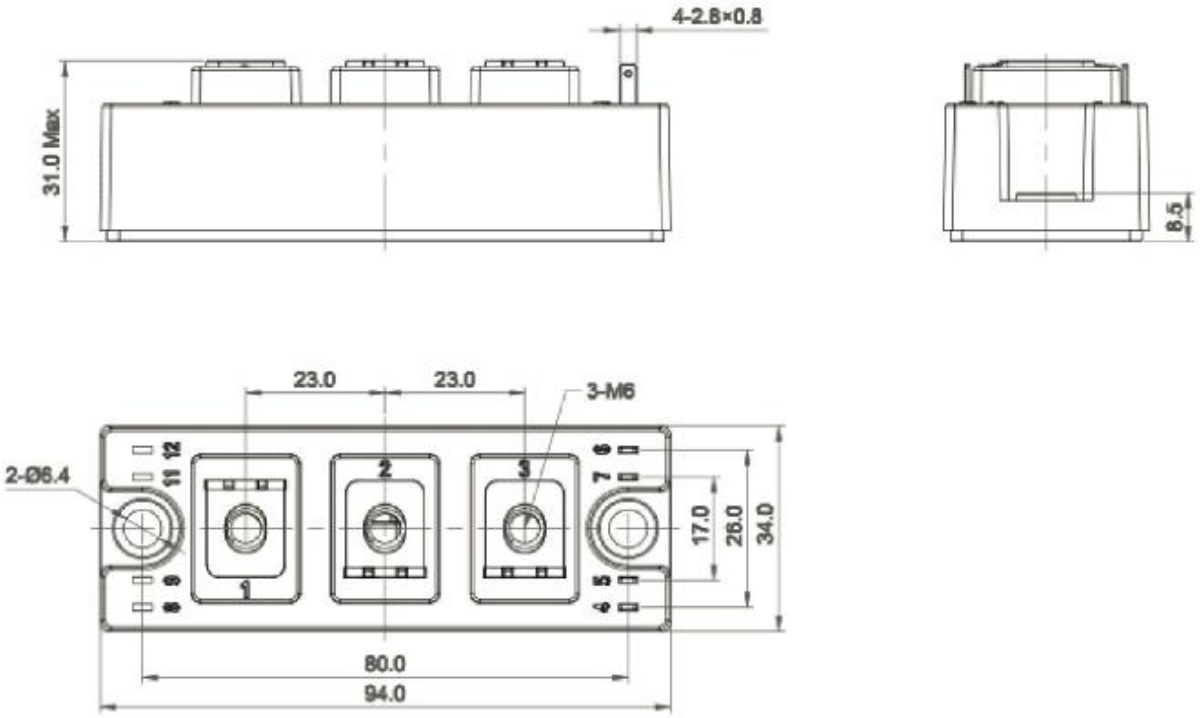
Mechanical Dimensions T2-1



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