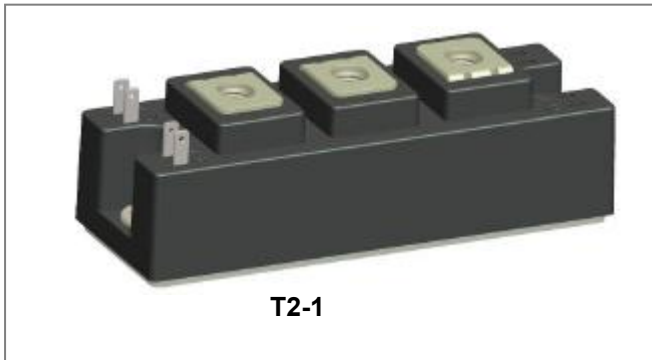
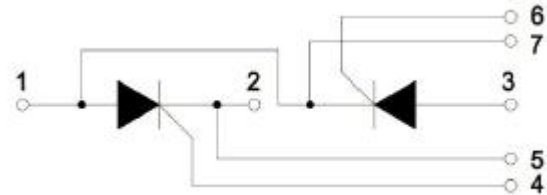


SSKT160-08 Thyristor Modules, 160A



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 @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	Condition	Max.	Units
Storage junction temperature range	T_{stg}	-	-40 - 125	$^\circ\text{C}$
Operating junction temperature range	T_j	-	-40 - 125	$^\circ\text{C}$
Repetitive peak off-state voltage($T_j=25^\circ\text{C}$)	V_{DRM}	-	800	V
Repetitive peak reverse voltage($T_j=25^\circ\text{C}$)	V_{RRM}	-	800	V
Average On-State Current	I_{TAV}	Sine $180^\circ\text{C}; T_c=85^\circ\text{C}$	160	A
Surge forward current	I_{TSM}	$t=10\text{ms } T_j=45^\circ\text{C}$	5400	A
		$t=10\text{ms } T_j=125^\circ\text{C}$	5000	
Maximum I^2t for fusing	I^2t	$t=10\text{ms } T_j=45^\circ\text{C}$	145000	A^2s
		$t=10\text{ms } T_j=125^\circ\text{C}$	125000	
Isolation Breakdown Voltage(R.M.S)	V_{isol}	Ac. 50HZ; R.M.S.; 1min	2500	V
		Ac.50HZ; R.M.S; 1sec	3500	
Mounting Torque	M_t	To terminals(M5)	$3\pm 15\%$	Nm
	M_s	To heatsink(M6)	$5\pm 15\%$	
Maximum critical rate of rise of off-state voltage	dV/dt	$T_j = 125^\circ\text{C}, V_D = 2/3V_{DRM}$	1000	$\text{V}/\mu\text{s}$
Module(Approximately)	Weight		160	g

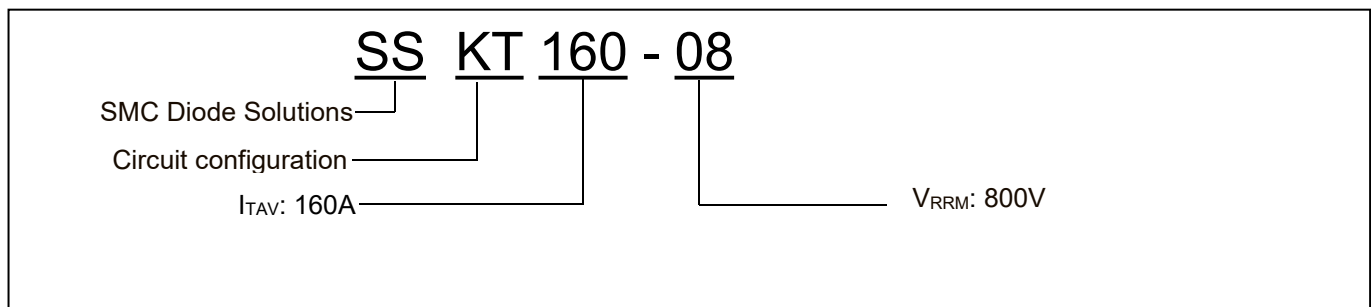
Electrical Characteristics($T_J=25^{\circ}\text{C}$ unless otherwise specified)

Parameters	Symbol	Test Condition	Typ.	Max.	Unit
Maximum Repetitive Peak Reverse Current/ Maximum Repetitive Off-state Current	I_{RRM}/I_{DRM}	$T_J=125^{\circ}\text{C}$ $V_{RD}=V_{RRM}$		40	mA
On state threshold voltage	V_{TO}	For power-loss calculations only $T_J=125^{\circ}\text{C}$		0.85	V
Maximum Value of on-state slope resistance	r_T	$T_J=125^{\circ}\text{C}$		1.5	m Ω
Maximum gate voltage required to trigger	V_{GT}	$T_J=25^{\circ}\text{C}$, $V_D=6\text{V}$		3.0	V
Maximum gate current required to trigger	I_{GT}	$T_J=25^{\circ}\text{C}$, $V_D=6\text{V}$		150	mA
Maximum gate voltage that will not trigger	V_{GD}	$T_J=125^{\circ}\text{C}$, $V_D=2/3V_{DRM}$		0.2	V
Maximum gate voltage that will not trigger	I_{GD}	$T_J=125^{\circ}\text{C}$, $V_D=2/3V_{DRM}$		10	mA
Maximum Latching current	I_L	$T_J=25^{\circ}\text{C}$, $I_G=1.2I_{GT}$	250	1000	mA
Maximum Holding current	I_H	$T_J=25^{\circ}\text{C}$, $I_T=1\text{A}$	200	400	mA
Gate controlled delay time	t_{gd}	$T_J=25^{\circ}\text{C}$, $I_G=1\text{A}$, $di_G/dt=1\text{A}/\mu\text{s}$	1		μs
Circuit commutated turn-off time	t_q	$T_J=125^{\circ}\text{C}$	100		μs

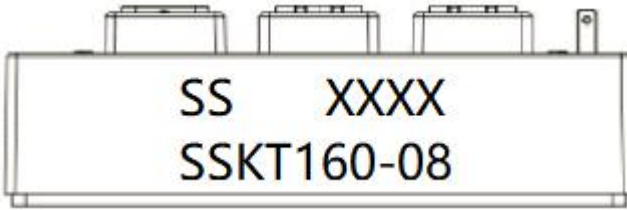
Thermal Resistances

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

Ordering Information



Marking Diagram



Where XXXXX is YYWW

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

Ratings and Characteristics Curves

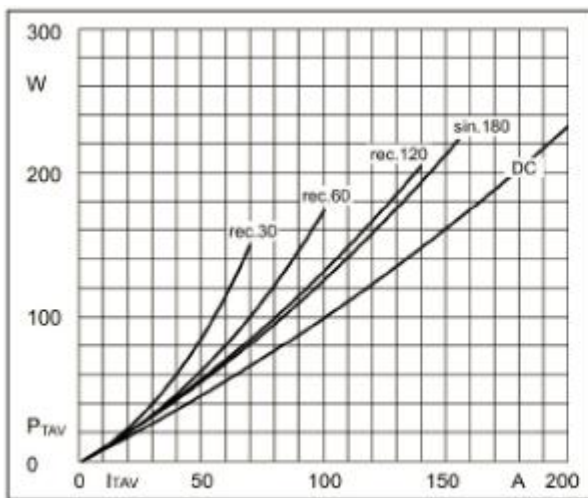


Fig1. Power dissipation

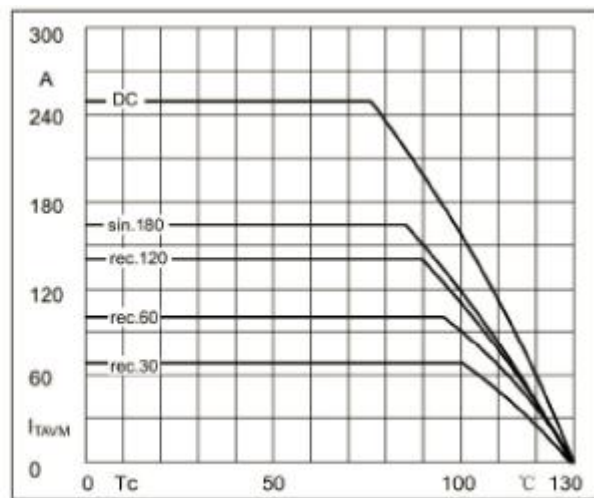


Fig2. Forward Current Derating Curve

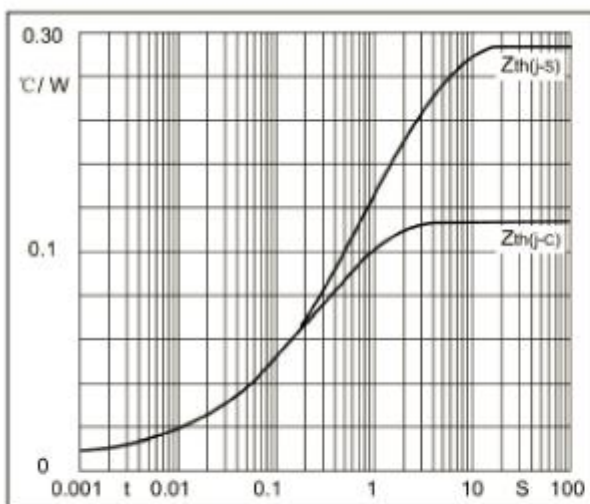


Fig3. Transient thermal impedance

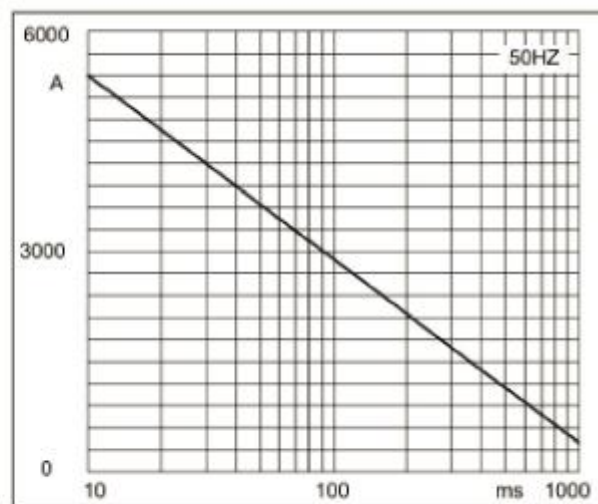


Fig4. Max Non-Repetitive Forward Surge Current

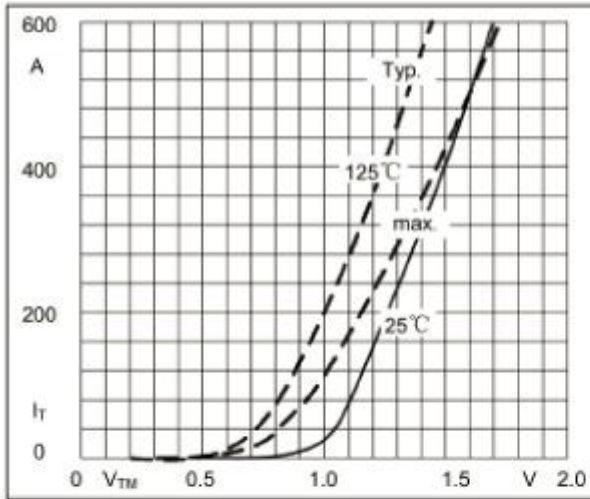


Fig5. Forward Characteristics

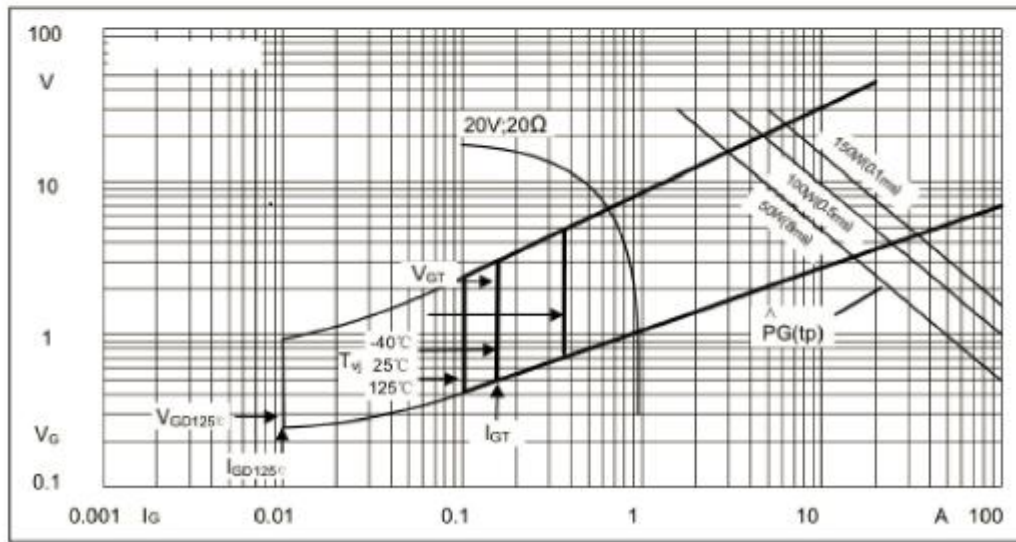


Fig6. Gate trigger Characteristics

Technical Data
Data Sheet N2244, Rev.-



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