

**Key Parameters**

$V_{DRM} / V_{RRM}$	= 1600V
$I_{T(AV)}$	= 119A
$I_{TSM}$	= 2250A
$V_{T(TO)}$	= 0.9V
$r_T$	= 3.35mΩ

**Features**

- Full blocking capability over wide temperature range
- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability

**Applications**

- Power Supplies
- DC motor control
- Controlled Rectifiers
- Temperature control

**Ordering Information**

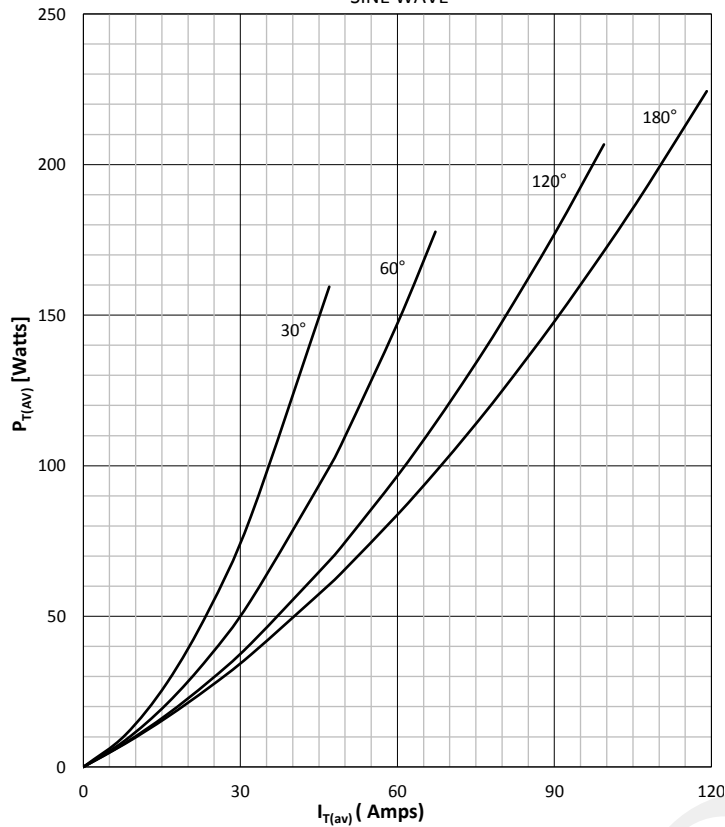
MS	TT	119	S	XX
Fixed code	TT- Thyristor- Thyristor Module TD- Thyristor- Diode Module	Current Code	Technology S = Solder Bond Technology	Voltage Code Code X 100 = $V_{DRM}/V_{RRM}$
Order Code MS TT119S16 : 1600V $V_{DRM}, V_{RRM}$ , Thyristor-Thyristor Module				

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Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		130	200 - 1600	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		130	300 - 1700	V
V <sub>DRM</sub>	Repetitive peak off-state voltage		130	200 - 1600	V
I <sub>RRM</sub>	Repetitive peak reverse current	V = V <sub>RRM</sub>	130	20	mA
I <sub>DRM</sub>	Repetitive peak off-state current	V = V <sub>DRM</sub>	130	20	mA
<b>CONDUCTING</b>					
I <sub>T(AV)</sub>	Mean on state current	180° sin ,50 Hz, T <sub>c</sub> =85°C		119	A
I <sub>RMS</sub>	RMS on-state current			187	A
I <sub>TSM</sub>	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	2250	A
			130	1900	A
I <sup>2</sup> t	I <sup>2</sup> t	Sine wave, 10 ms Without reverse voltage	25	25300	A <sup>2</sup> s
			130	18050	A <sup>2</sup> s
V <sub>T</sub>	On-state voltage	On-state current = 300A	25	1.75	V
V <sub>T(TO)</sub>	Threshold voltage		130	0.9	V
r <sub>T</sub>	On-state slope resistance		130	3.35	mΩ
<b>SWITCHING</b>					
di/dt	Critical rate of rise of on-state current		130	140	A/μs
dv/dt	Critical rate of rise of off-state voltage	V <sub>DR</sub> = 67%V <sub>DRM</sub>	130	1000	V/μs
<b>GATE</b>					
I <sub>gt</sub>	Gate trigger current	V <sub>D</sub> =6V	25	150	mA
V <sub>gt</sub>	Gate trigger voltage	V <sub>D</sub> =6V	25	3.0	V
I <sub>H</sub>	Holding current	V <sub>D</sub> =6V, gate open circuit	25	250	mA
I <sub>L</sub>	Latching current	V <sub>D</sub> =6V	25	600	mA
<b>MOUNTING</b>					
R <sub>th(j-c)</sub>	Thermal impedance, sin 180°	Junction to case, per arm per module		0.20	°C/W
				0.10	
R <sub>th(j-c)</sub>	Thermal impedance, rec120°	Junction to case, per arm per module		0.21	°C/W
				0.105	
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, per arm per module		0.22	°C/W
				0.11	
T <sub>j</sub>	Max. junction temperature			130	°C
T <sub>stg</sub>	Storage temperature			-40 ... 125	°C
V <sub>ISOL</sub>	Insulation test voltage,RMS	F=50Hz, 1min		2.5	KV
M1	Mounting torque			5 ± 15%	Nm
M2	Terminal connection torque			3 ± 15%	Nm
W	Weight (Approx.)			105	gm
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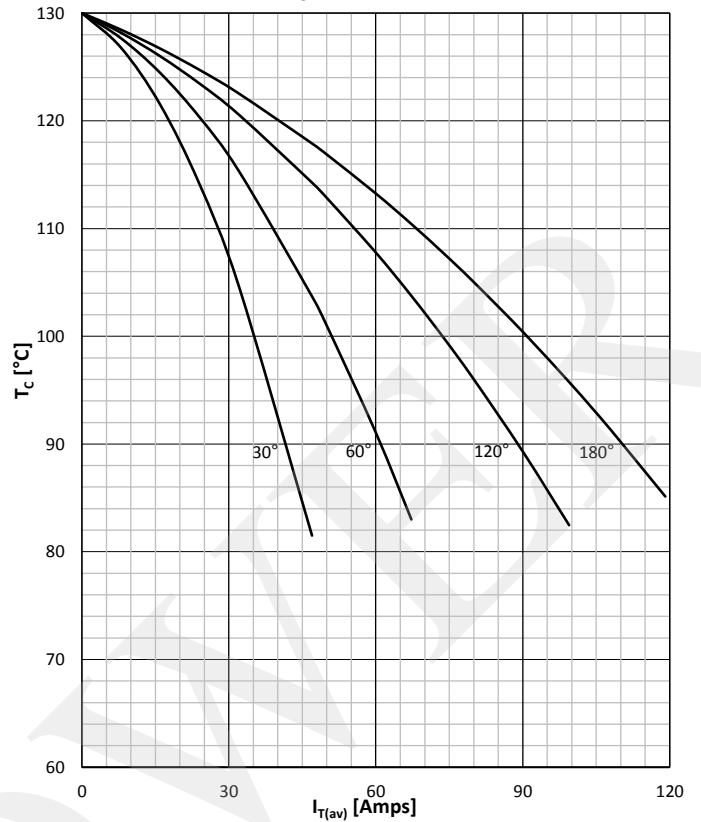
DISSIPATION CHARACTERISTICS

SINE WAVE



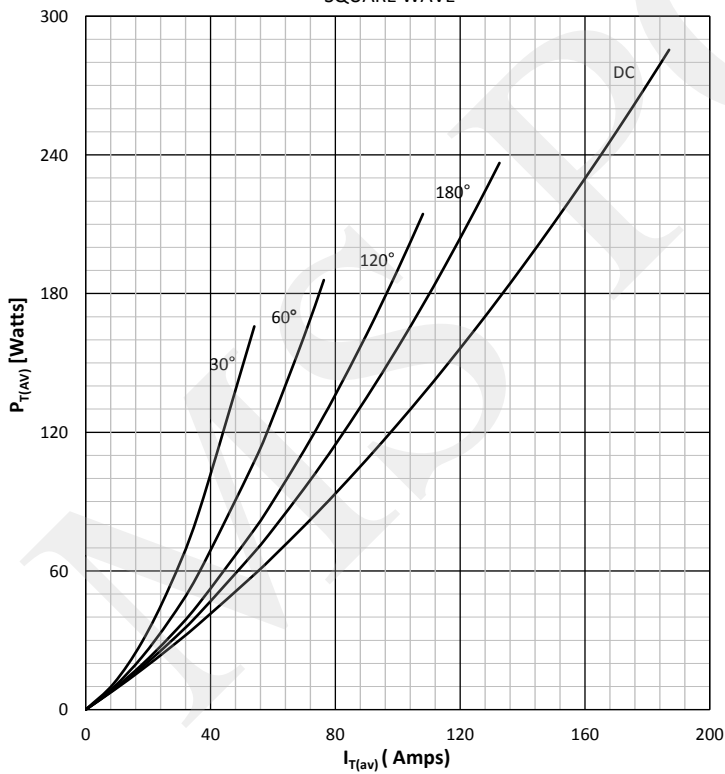
ON STATE CURRENT DERATING CURVE

SINE WAVE



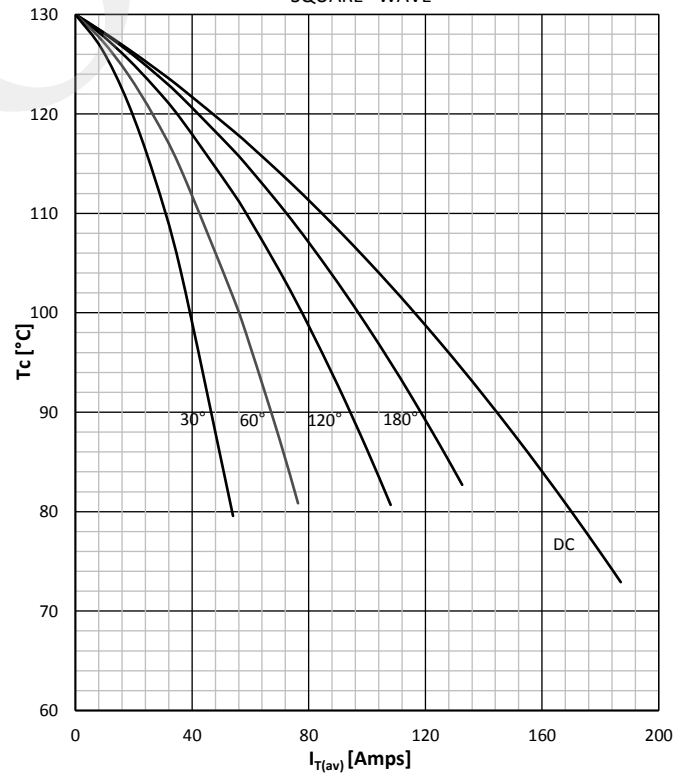
DISSIPATION CHARACTERISTICS

SQUARE WAVE



ON STATE CURRENT DERATING CURVE

SQUARE WAVE



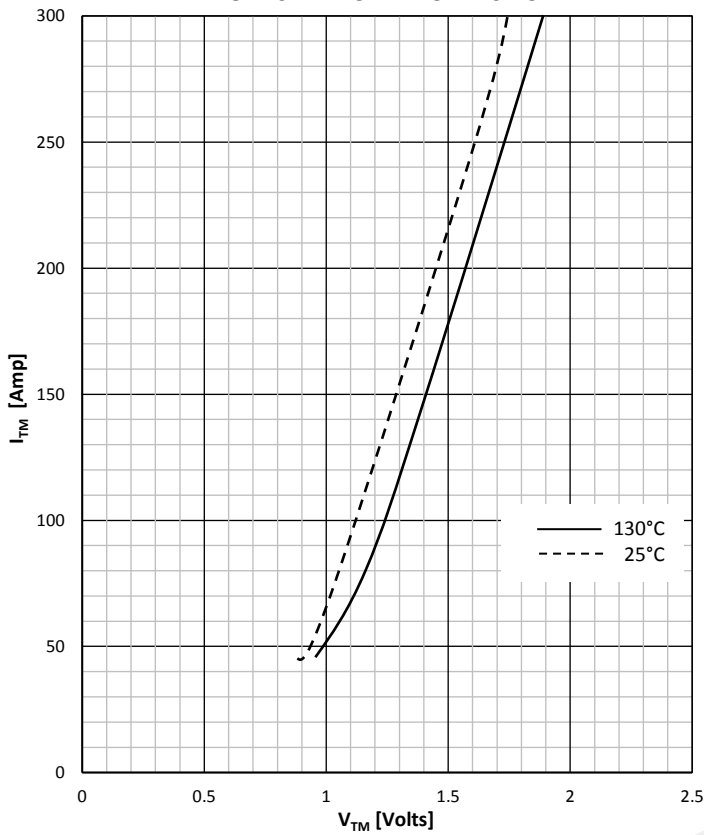
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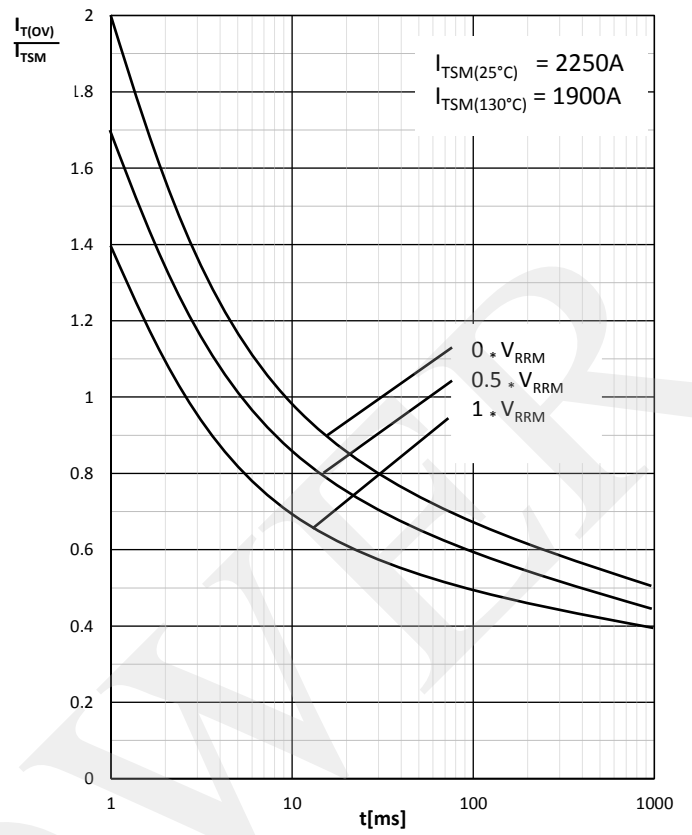
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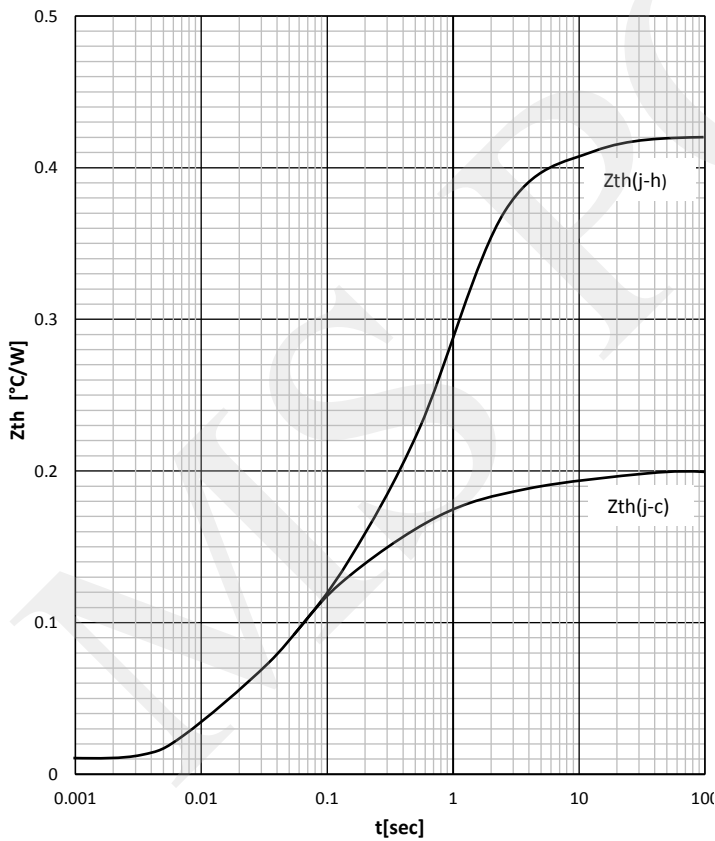
ON -STATE CHARACTERISTIC



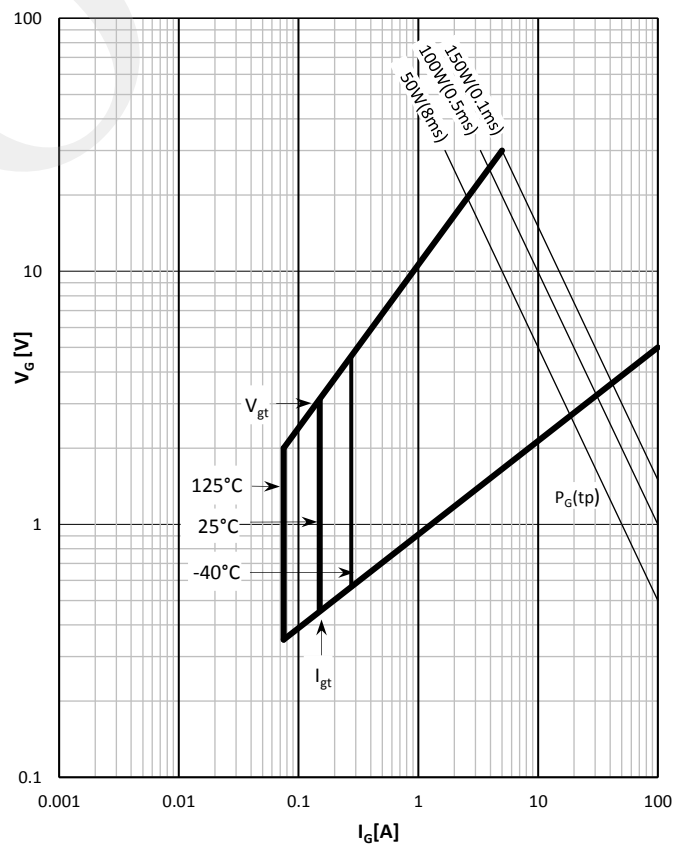
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE, PER ARM

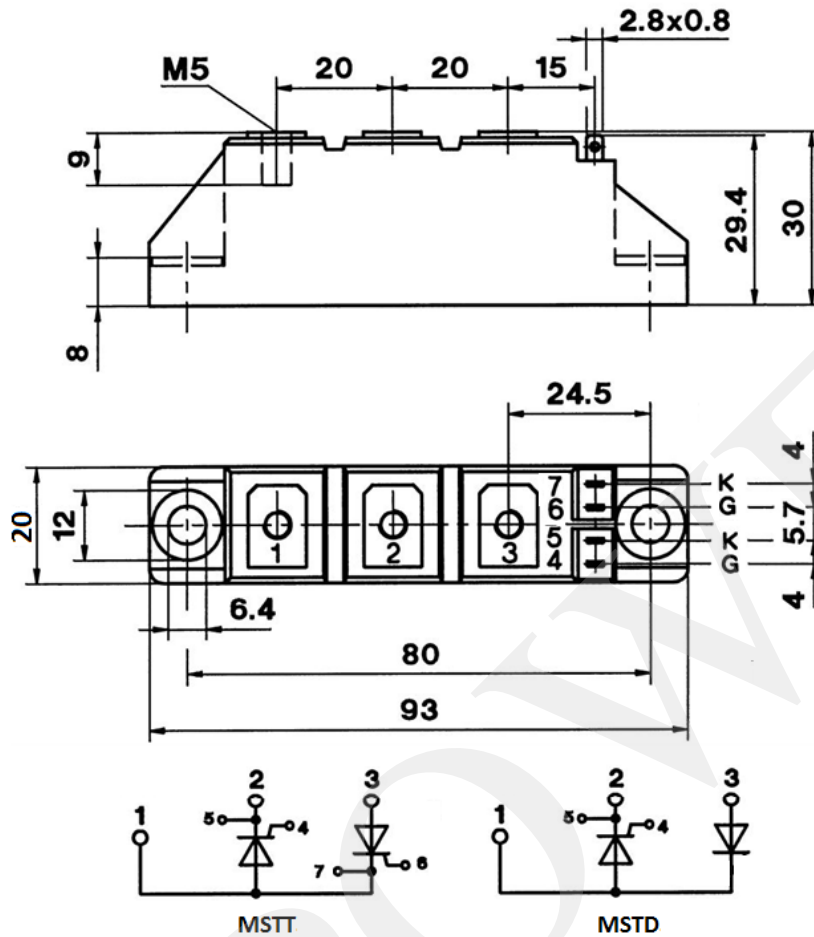


GATE TRIGGER CHARACTERISTICS



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