MS T31

Key Parameters

V_{DRM} / V_{RRM}	= 1600V
$I_{T(AV)}$	= 30A
I_{TSM}	= 550A
$V_{T(TO)}$	= 0.95V
r_T	= 6.40mΩ

Features

- Full blocking capability over wide temperature range
- Hard soldered joints for high reliability

Applications

- Power Supplies
- DC motor control
- Controlled Rectifiers
- AC switch

Ordering Information

MS T	31	S	X X	U	B
Phase Control Thyristor	Current Code	Stud / Flat Base Version	Voltage Code Code X 100 = V_{DRM}/V_{RRM}	Stud Threads U = 1/4" UNF	Technology B = Solder Bond Technology
Order Code MS T31S16UB : 1600V V_{DRM},V_{RRM}, Stud base Thyristor with 1/4" UNF threads					

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Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		125	200 - 1600	V
V_{RSM}	Non-repetitive peak reverse voltage		125	300 - 1700	V
V_{DRM}	Repetitive peak off-state voltage		125	200 - 1600	V
I_{RRM}	Repetitive peak reverse current	V= V_{RRM}	125	10	mA
I_{DRM}	Repetitive peak off-state current	V= V_{DRM}	125	10	mA
CONDUCTING					
$I_{T(AV)}$	Mean on state current	180° sin ,50 Hz, T_c=85°C		30	A
I_{RMS}	RMS on-state current			47	A
I_{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	550	A
			125	500	A
I^2t	I^2t	Sine wave, 10 ms Without reverse voltage	25	1512	A^2s
			125	1250	A^2s
V_T	On-state voltage	On-state current = 100A	125	1.69	V
$V_{T(TO)}$	Threshold voltage		125	0.95	V
r_T	On-state slope resistance		125	6.40	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current		125	50	A/µs
dv/dt	Critical rate of rise of off-state voltage	V_{DR} = 67%V_{DRM}	125	1000	V/µs
GATE					
I_{gt}	Gate trigger current	V_D=6V	25	100	mA
V_{gt}	Gate trigger voltage	V_D=6V	25	3.0	V
I_H	Holding current	V_D=6V, gate open circuit	25	150	mA
I_L	Latching current	V_D=6V	25	300	mA
MOUNTING					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case		0.93	°C/W
$R_{th(j-c)}$	Thermal impedance, rec120°	Junction to case		1.07	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink		0.30	°C/W
T_j	Max. junction temperature			125	°C
T_{stg}	Storage temperature			-40 125	°C
M	Mounting torque			2	NM
W	Weight (Approx.)			30	gm

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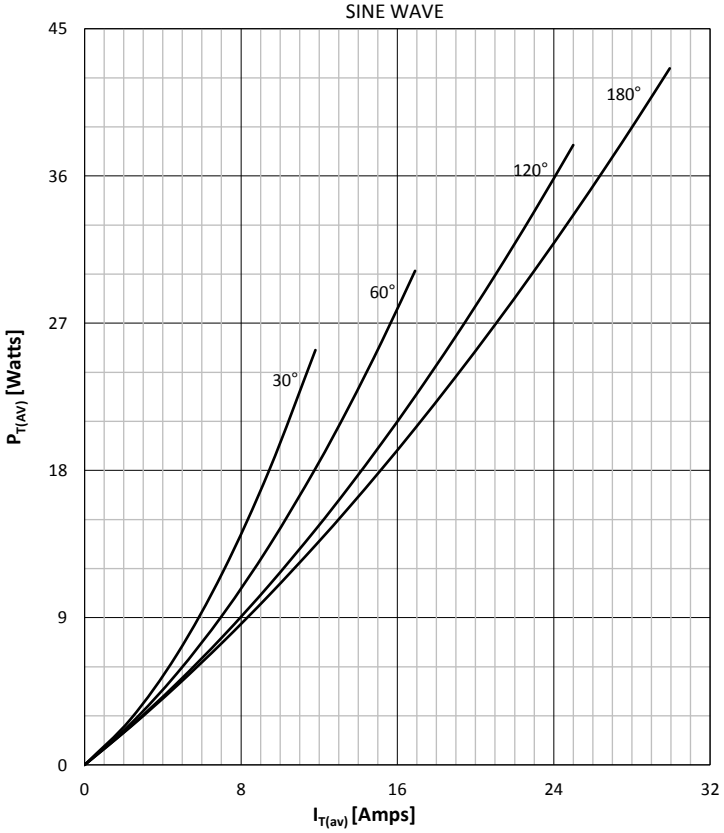
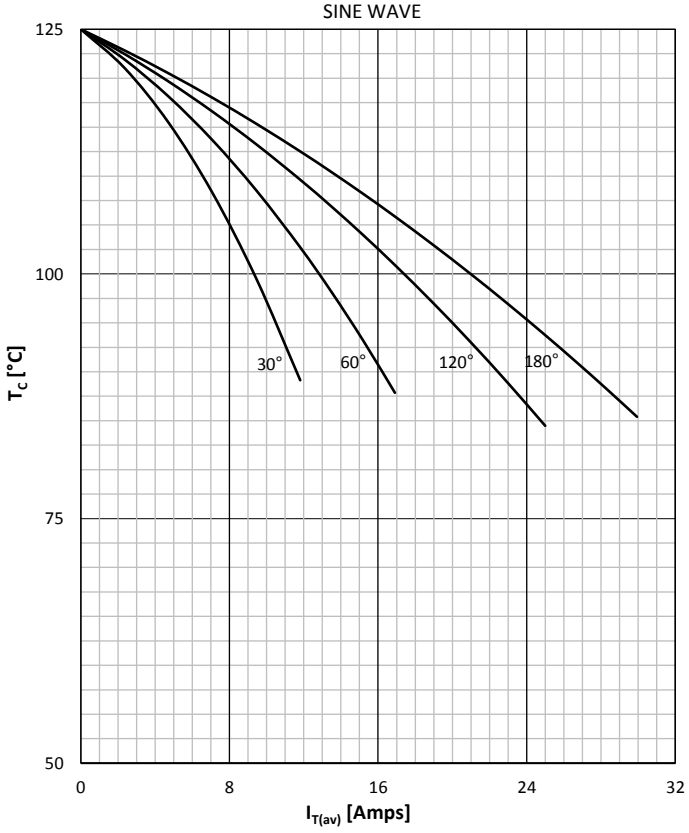
DISSIPATION CHARACTERISTICS

SINE WAVE



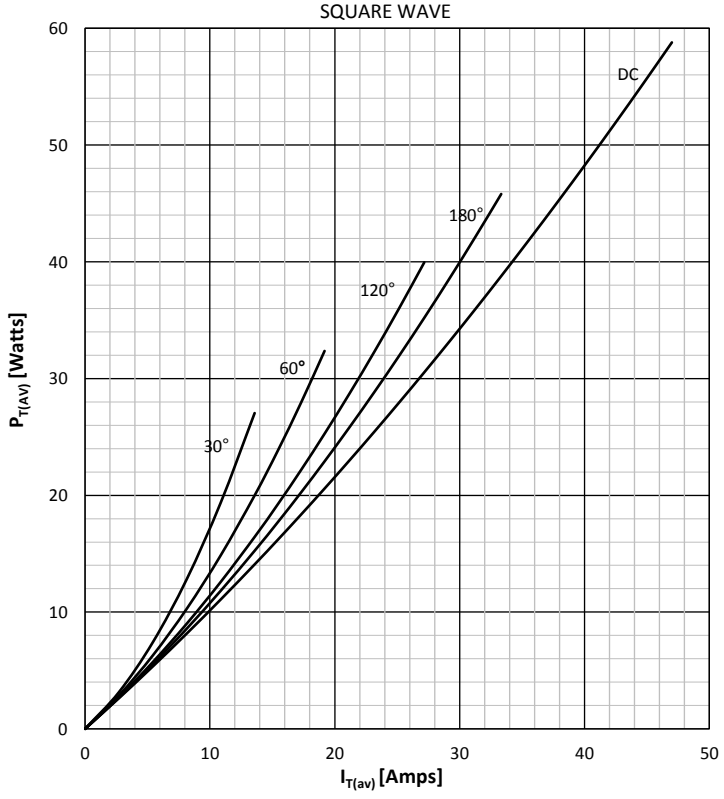
ON STATE CURRENT DERATING CURVE

SINE WAVE



DISSIPATION CHARACTERISTICS

SQUARE WAVE



ON STATE CURRENT DERATING CURVE

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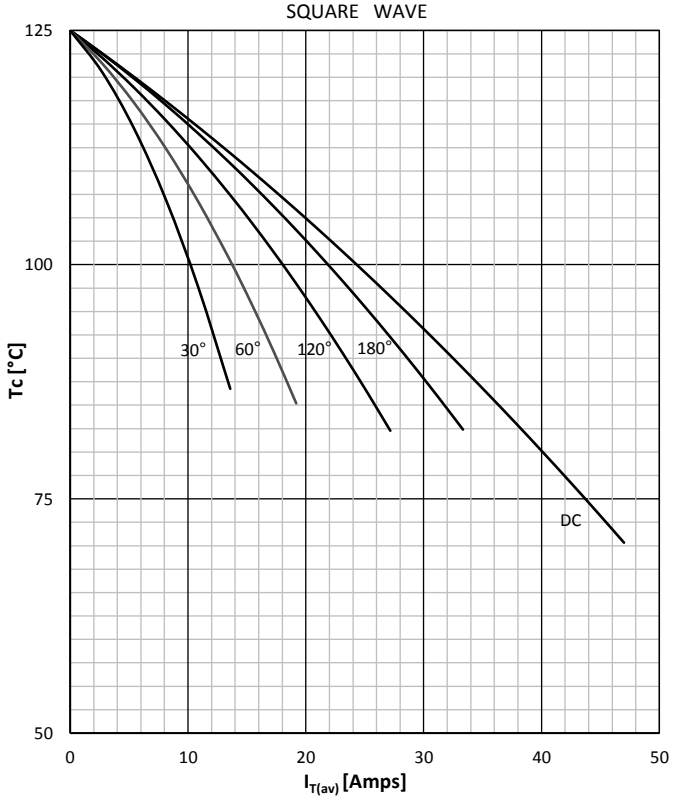

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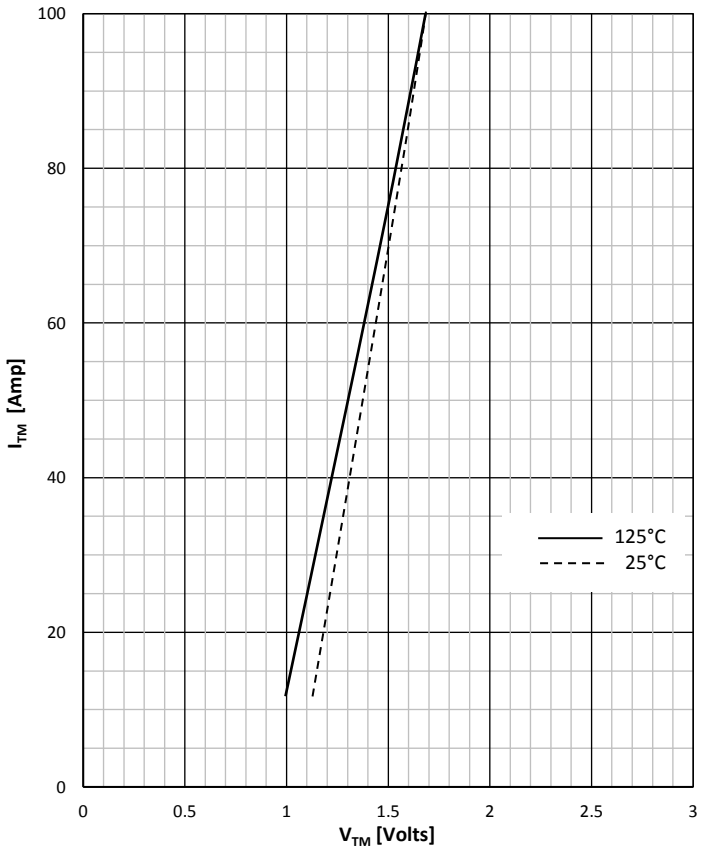
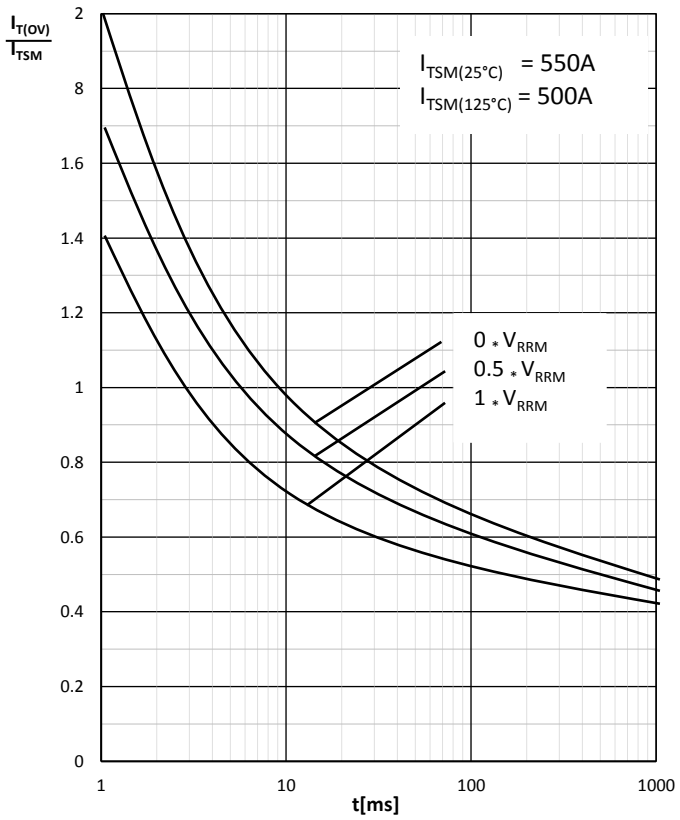
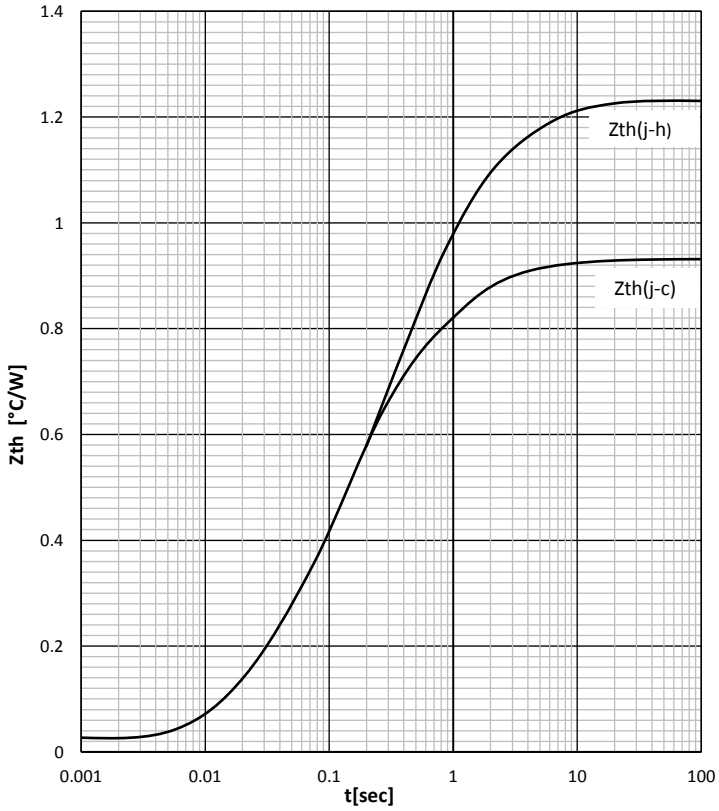
ON STATE CHARACTERISTIC



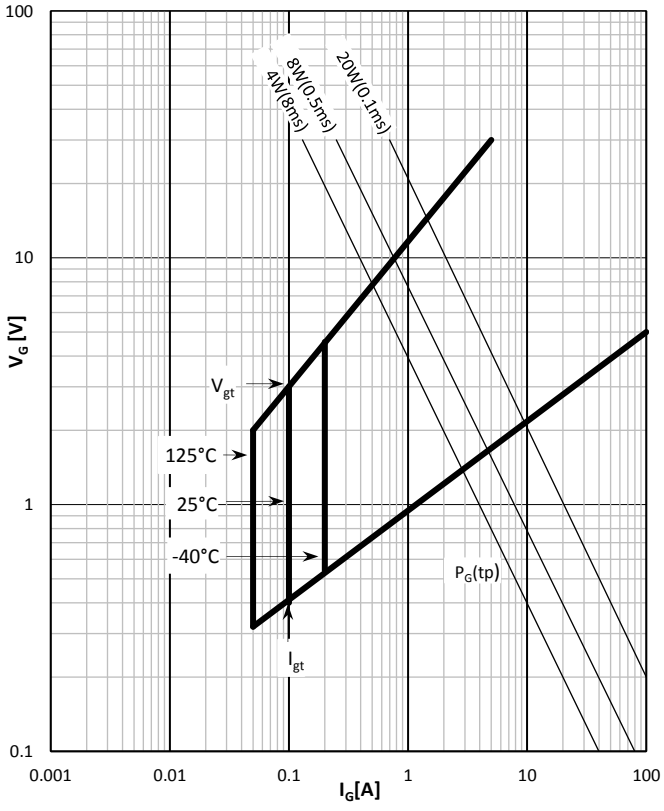
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE



GATE TRIGGER CHARACTERISTICS



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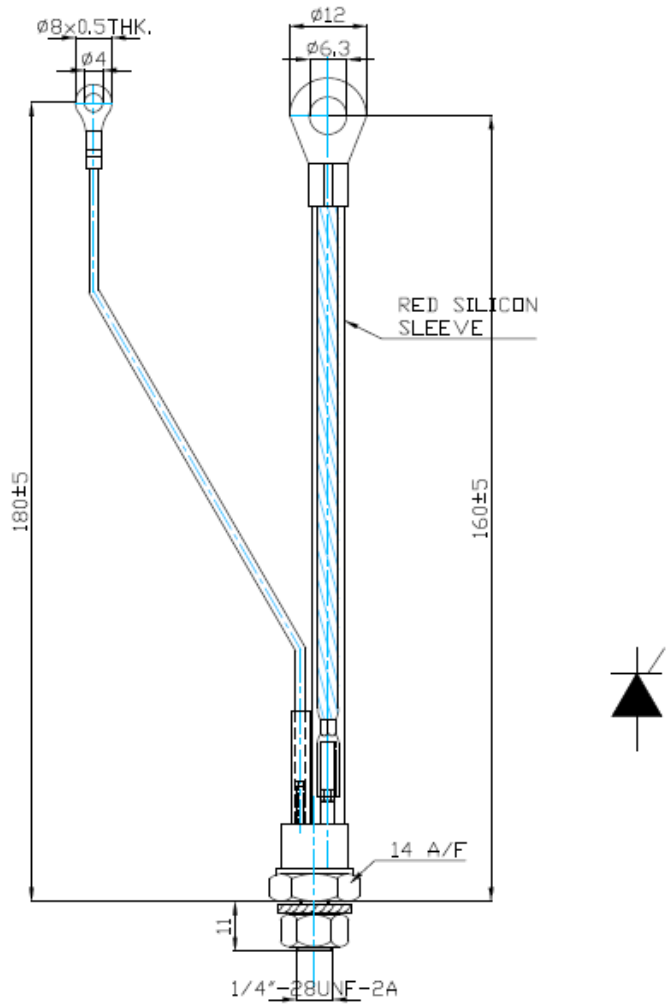
Outline



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