

Rectifier diode

Types W0503RC/SC200 & W0503RC/SC240

Absolute Maximum Ratings

	PARAMETER	MAXIMUM LIMITS	UNITS
V_{RRM}	Repetitive peak reverse voltage, (note 1)	2000 - 2400	V
V_{RSM}	Non-repetitive peak reverse voltage, (note 1)	2100 - 2500	V
$I_{T(AV)M}$	Maximum average on-state current, $T_{case}=100^{\circ}C$	370	A
$I_{T(AV)M}$	Maximum average on-state current. $T_{case}=55^{\circ}C$	503	A
$I_{T(RMS)M}$	Nominal RMS on-state current, $T_{case}=100^{\circ}C$	600	A
$I_{T(D.C.)}$	D.C. on-state current, $T_{case}=100^{\circ}C$	550	A
I_{TSM}	Peak non-repetitive surge $t_p=10ms$, $V_{rm}=60\%V_{RRM}$, (note 2)	5.5	kA
I_{TSM2}	Peak non-repetitive surge $t_p=10ms$, $V_{rm}\leq 10V$, (note 2)	6.05	kA
I^2t	I^2t capacity for fusing $t_p=10ms$, $V_{rm}=60\%V_{RRM}$, (note 2)	151×10^3	A^2s
I^2t	I^2t capacity for fusing $t_p=10ms$, $V_{rm}\leq 10V$, (note 2)	183×10^3	A^2s
$T_{j\ op}$	Operating temperature range	-40 to +180	$^{\circ}C$
T_{stg}	Storage temperature range	-40 to +200	$^{\circ}C$

Notes:-

- 1) De-rating factor of 0.13% per $^{\circ}C$ is applicable for T_j below $25^{\circ}C$.
- 2) Half-sinewave, $180^{\circ}C$ T_j initial.

Characteristics

	PARAMETER	MIN.	TYP.	MAX.	TEST CONDITIONS (Note 1)	UNITS
V_{TM}	Maximum peak on-state voltage	-	-	1.88	$I_{FM}=1200A$	V
V_{T0}	Threshold voltage	-	-	0.99		V
r_T	Slope resistance	-	-	0.74		$m\Omega$
I_{RRM}	Peak reverse current	-	-	15	Rated V_{RRM}	mA
R_{thJC}	Thermal resistance, junction to case	-	-	0.13	DC & 180° sine wave	K/W
		-	-	0.14	120° rectangular wave	K/W
R_{thCH}	Thermal resistance case to Sink	-	-	0.04		K/W
F	Mounting Torque	3.3	-	2.77	Threads not to be lubricated	KgM
W_t	Weight	-	250	-		g

Notes:-

- 1) Unless otherwise indicated $T_j=180^{\circ}C$.

Curves

Figure 1 – On-state characteristics of Limit device

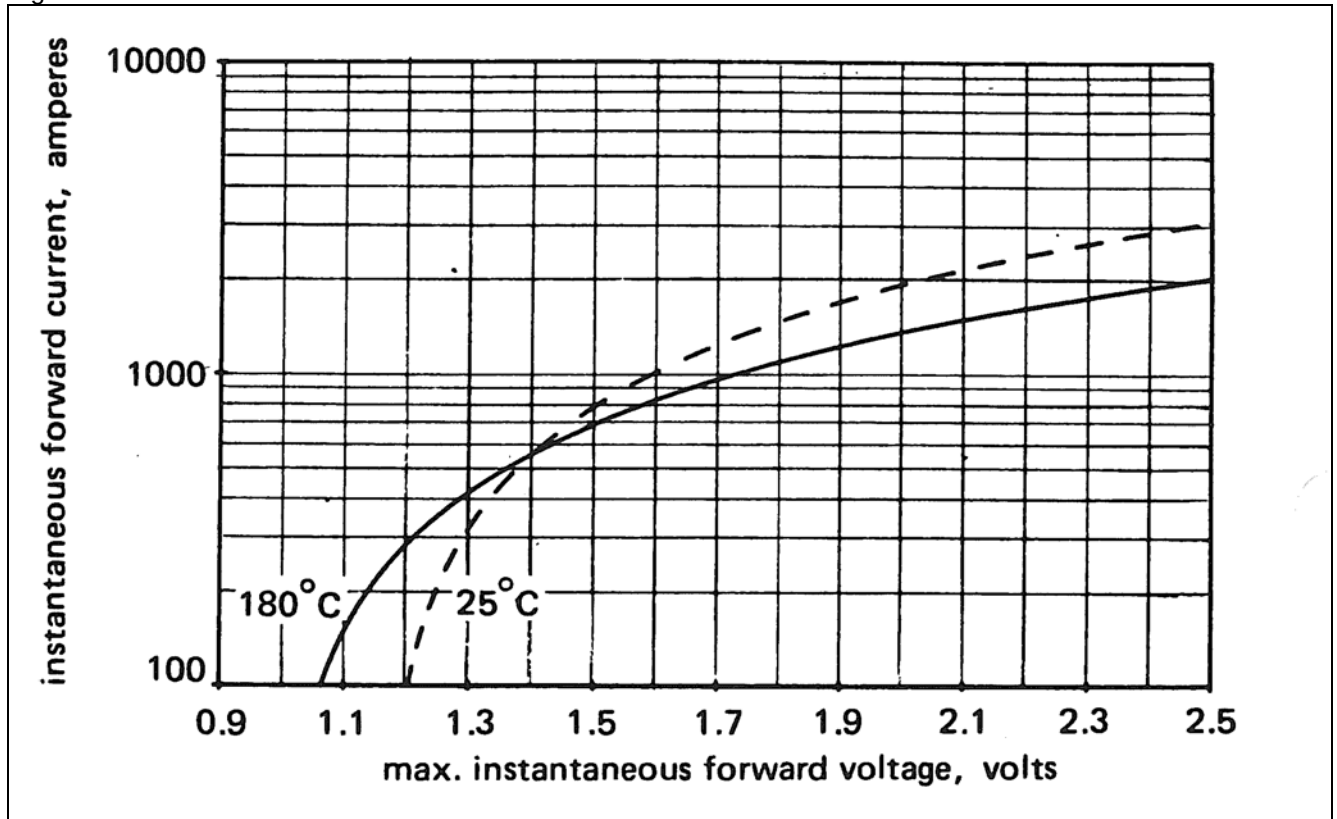


Figure 2 – Transient thermal impedance

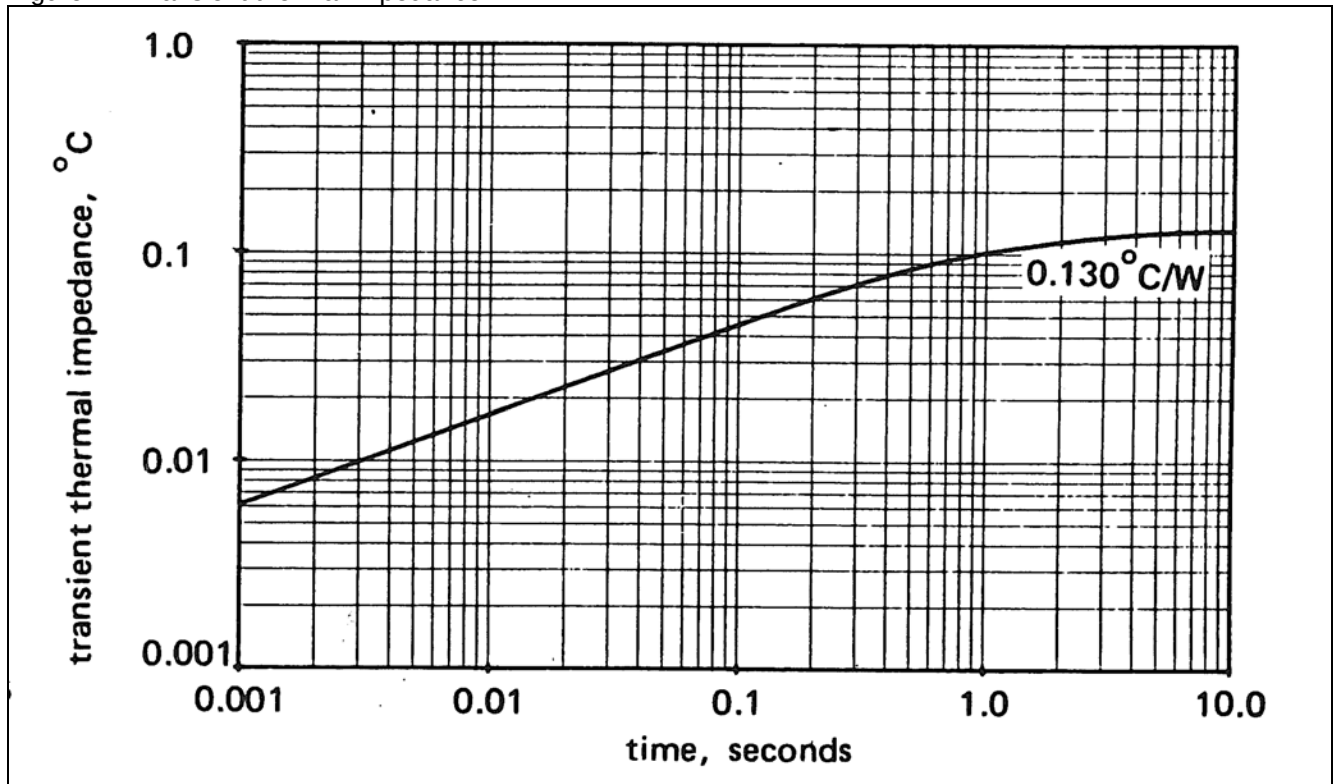


Figure 3 – Maximum surge and I^2t Ratings

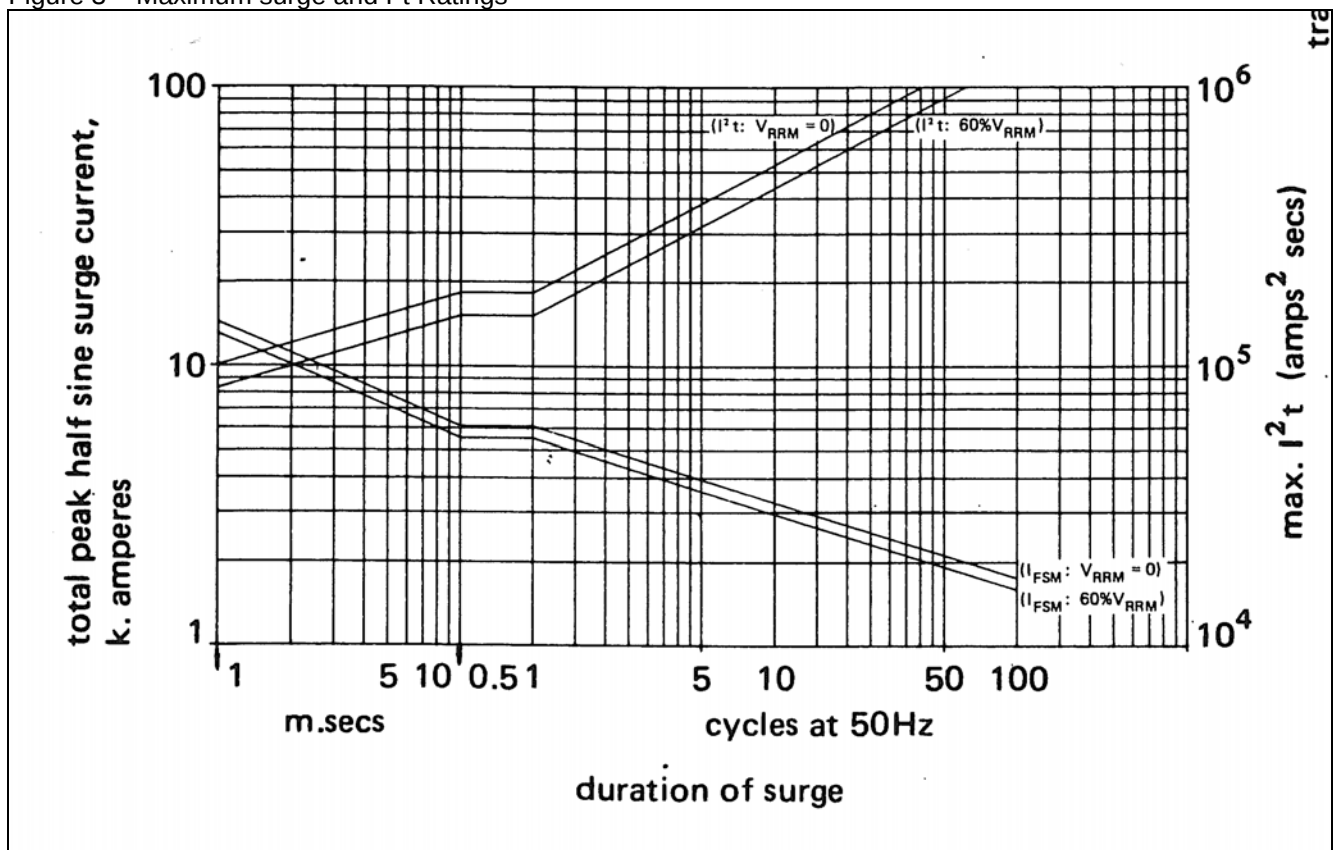
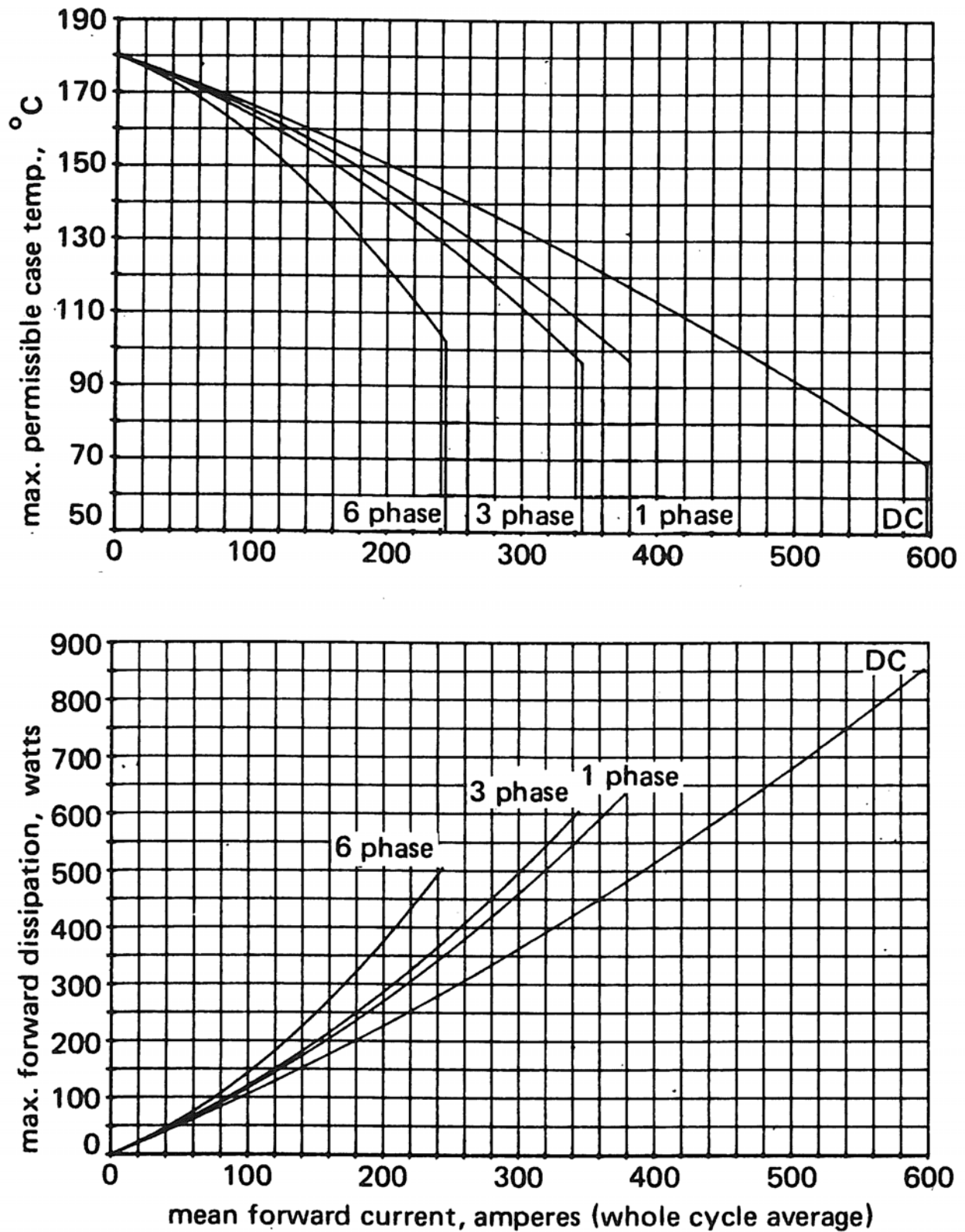
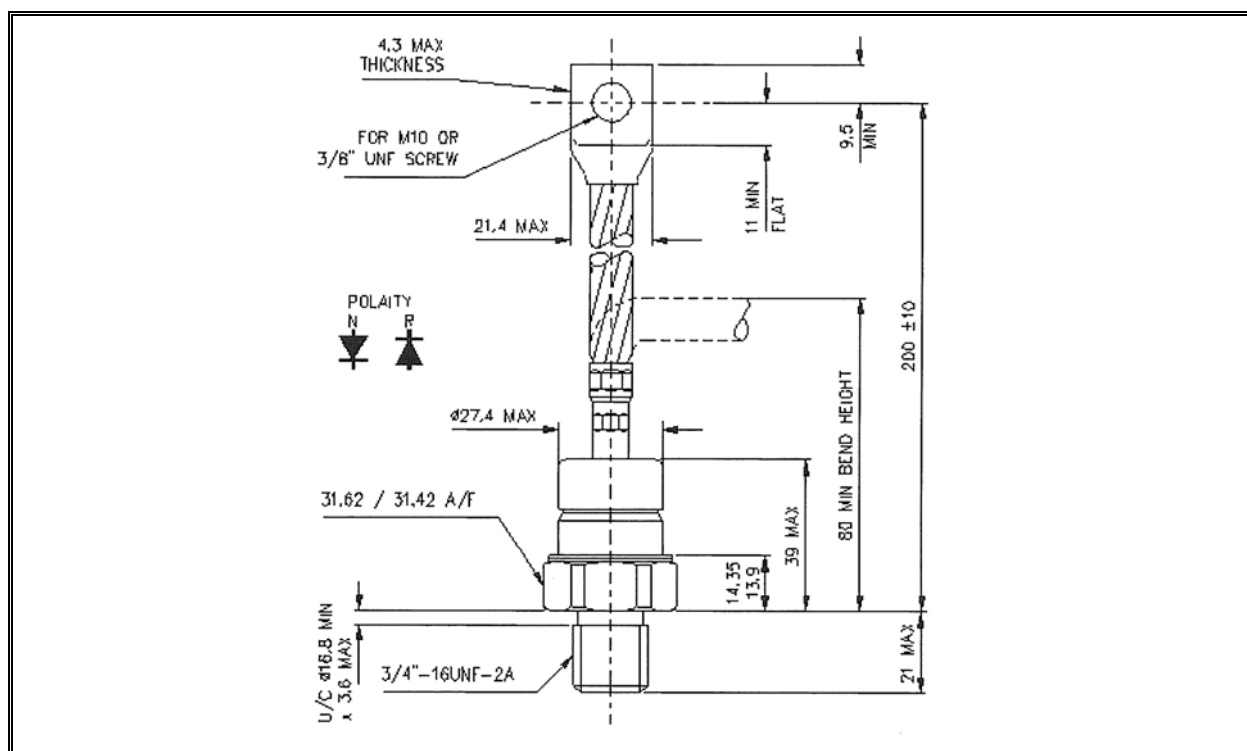


Figure 4 – Dissipation /Sink temperature v Mean forward current



Outline Drawing & Ordering Information



ORDERING INFORMATION

(Please quote 10 digit code as below)

W0503	◆	C	◆◆◆
Fixed Type Code	Polarity R = Stud Anode S = Stud cathode	Fixed outline code	Voltage code $V_{DRM}/10$ 200 or 240

Order code: W0503RC240, Vrrm 2400V, stud anode

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