IXYS UK WESTCODE

Date:- 07 August 2012

Data Sheet Issue:- K1

Rectifier diode

Types W0944WC120 to W0944WC150

Absolute Maximum Ratings

	PARAMETER	MAXIMUM LIMITS	UNITS
V_{RRM}	Repetitive peak reverse voltage, (note 1)	1200-1500	V
V_{RSM}	Non-repetitive peak reverse voltage, (note 1)	1300-1600	V
$I_{T(AV)M}$	Maximum average on-state current, T_{sink}=55℃, (note 2)	945	A
$I_{T(AV)M}$	Maximum average on-state current. T_{sink}=100℃, (note 3)	430	A
$I_{T(RMS)M}$	Nominal RMS on-state current, T_{sink}=25℃, (note 2)	1694	A
$I_{T(d.c.)}$	D.C. on-state current, T_{sink}=25℃, (note 4)	1430	A
I_{TSM}	Peak non-repetitive surge t_p=10ms, V_{rm}=60%V_{RRM}, (note 5)	9.0	kA
I_{TSM2}	Peak non-repetitive surge t_p=10ms, V_{rm}≤10V, (note 5)	10.0	kA
I^2t	I^2t capacity for fusing t_p=10ms, V_{rm}≤10V, (note 5)	0.5×10^6	A^2s
$T_{j\ op}$	Operating temperature range	-40 to +190	℃
T_{stg}	Storage temperature range	-40 to +200	℃

Notes:-
1) De-rating factor of 0.13% per ℃ is applicable for T_j below 25℃.
2) Double side cooled, single phase; 50Hz, 180° half-sinewave.
3) Cathode side cooled, single phase; 50Hz, 180° half-sinewave.
4) Double side cooled.
5) Half-sinewave, 190℃ T_j initial.

Characteristics

	PARAMETER	MIN.	TYP.	MAX.	TEST CONDITIONS (Note 1)	UNITS
V_{TM}	Maximum peak on-state voltage	-	-	1.45	I_{FM}=1930A	V
V_{T0}	Threshold voltage	-	-	0.79		V
r_T	Slope resistance	-	-	0.32		mΩ
I_{RRM}	Peak reverse current	-	-	15	Rated V_{RRM}	mA
R_{thJK}	Thermal resistance, junction to heatsink	-	-	0.09	Double side cooled	K/W
		-	-	0.018	Anode side cooled	K/W
		-	-	0.018	Cathode side cooled	K/W
F	Mounting force	3.3	-	5.5	Note 2.	kN
W_t	Weight	-	70	-		g

Notes:-
1) Unless otherwise indicated T_j=190°C.
2) For other clamp forces, please consult factory.

Curves

Figure 1 – On-state characteristics of Limit device

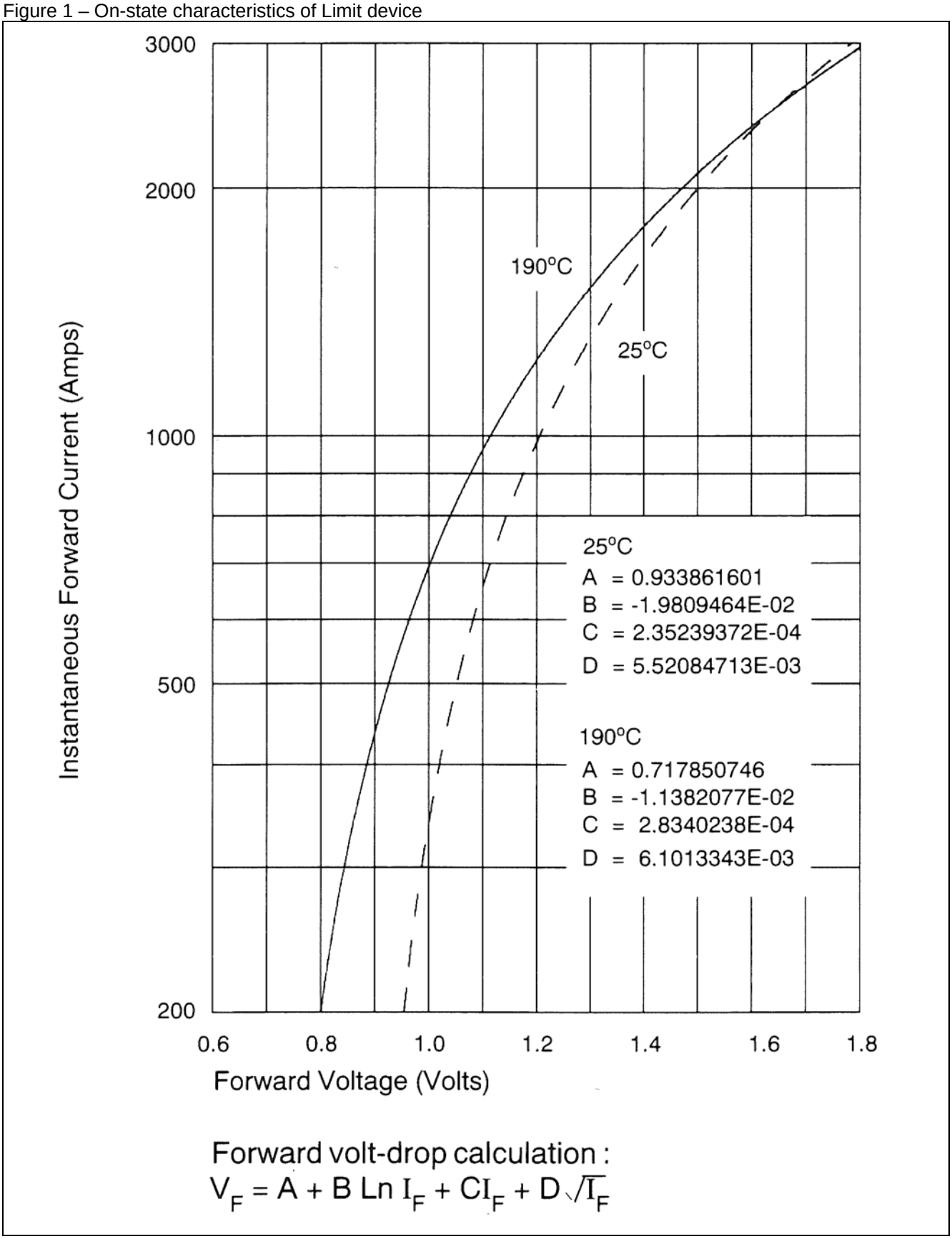


Figure 2 – Transient thermal impedance

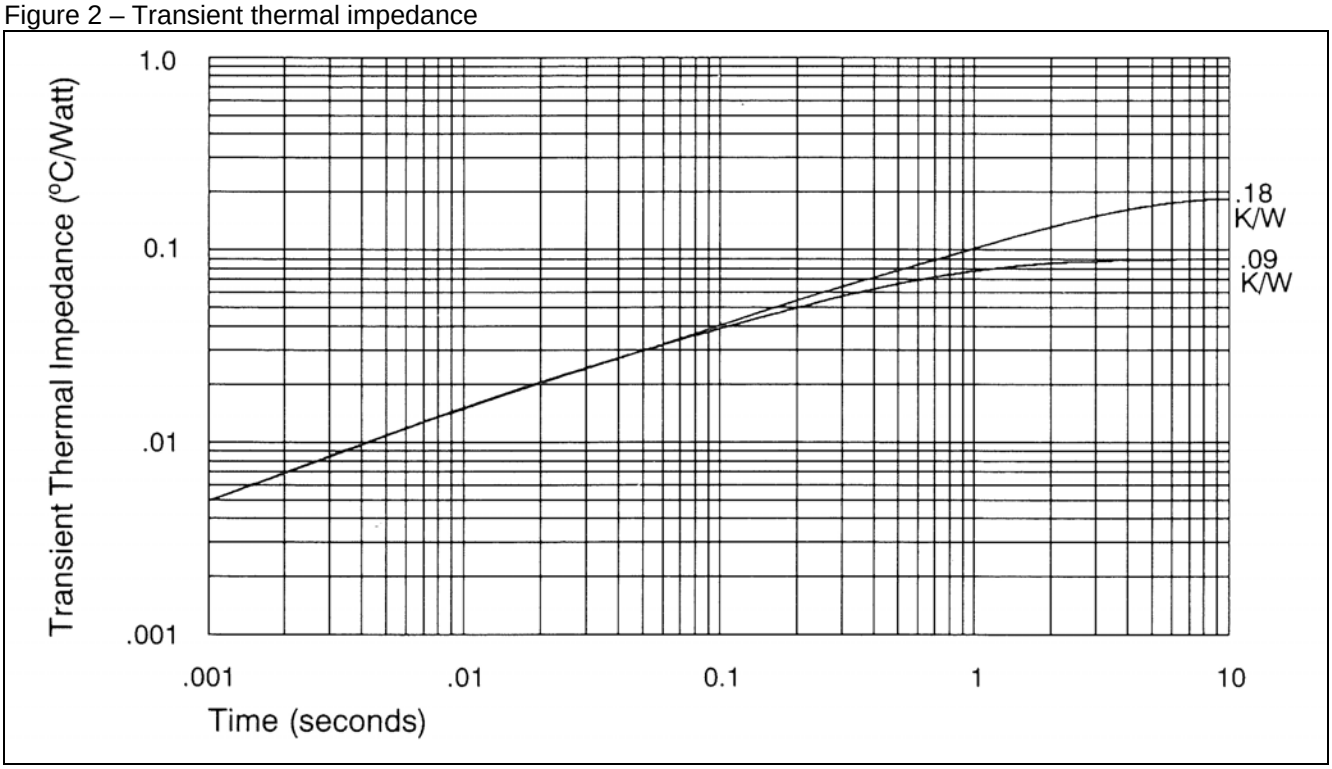


Figure 3 – Maximum surge and I^2t Ratings

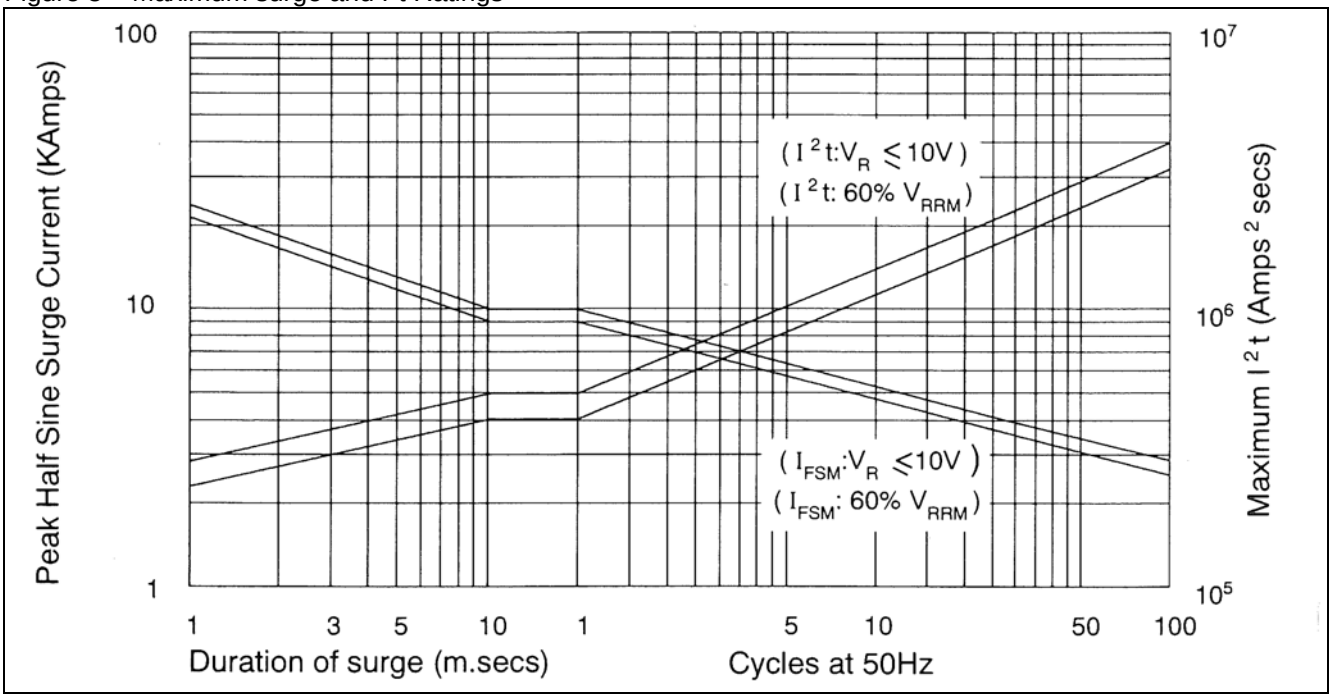


Figure 4 – Dissipation /Sink temperature v Mean forward current (Double side cooled)

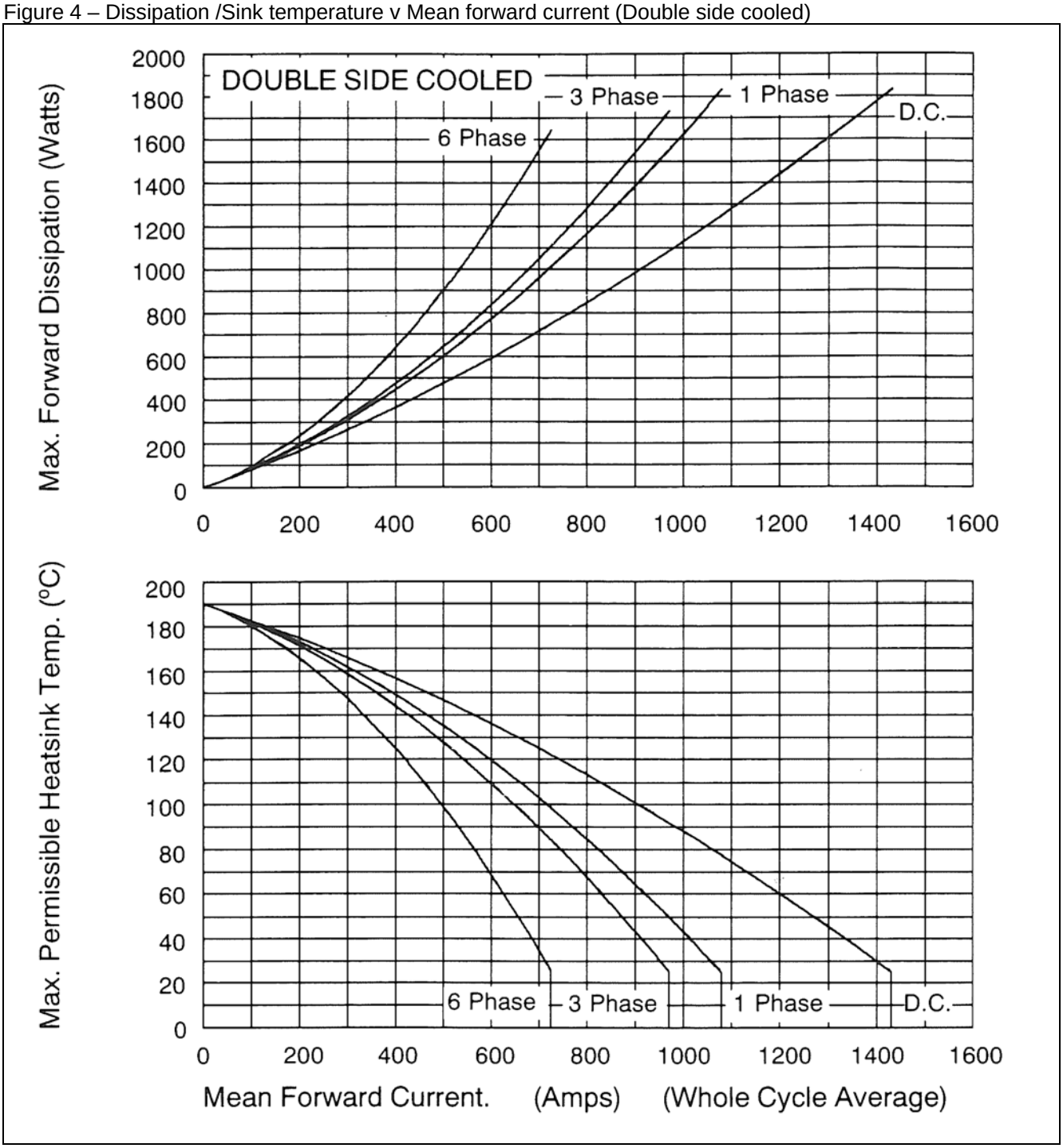
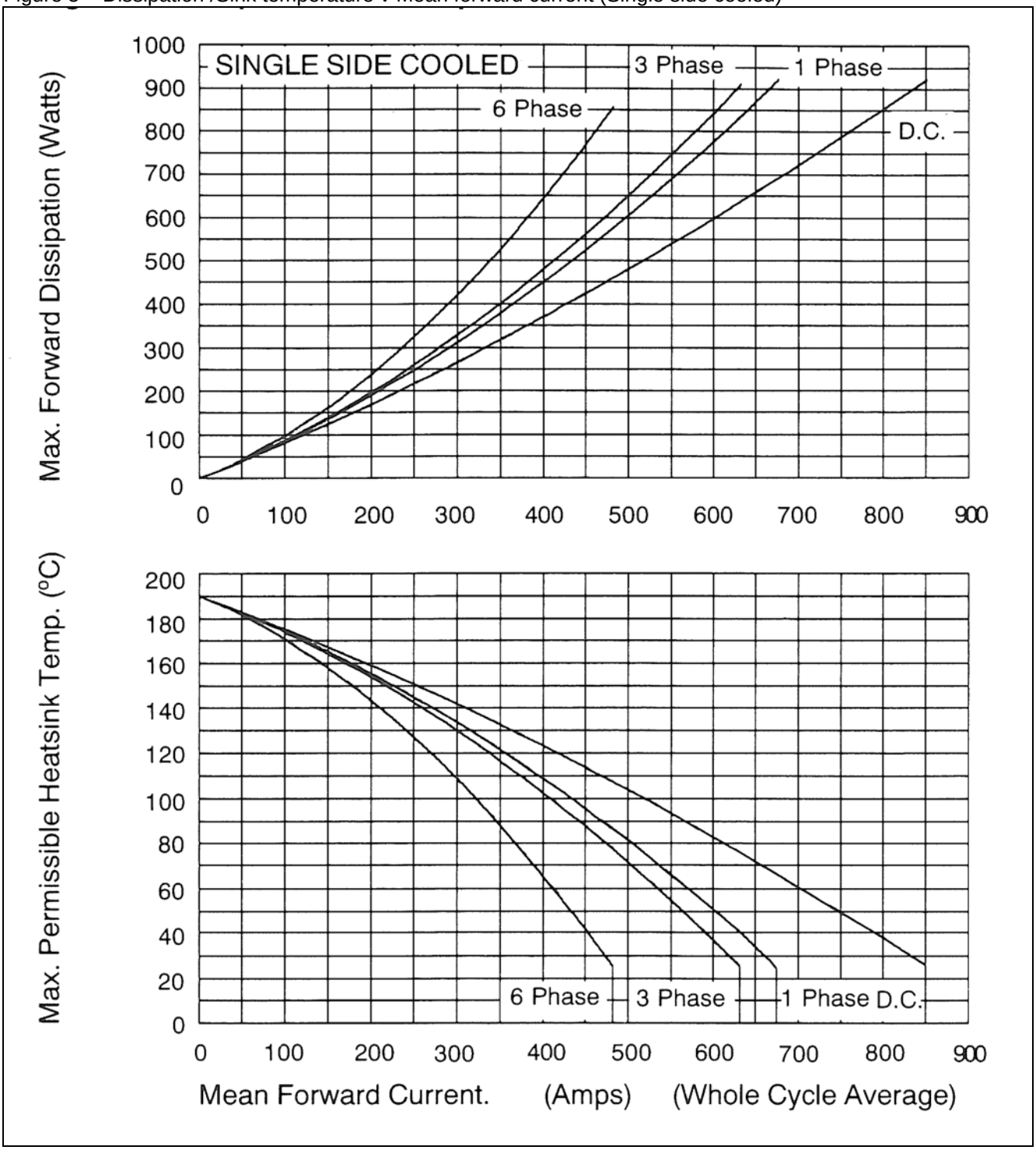
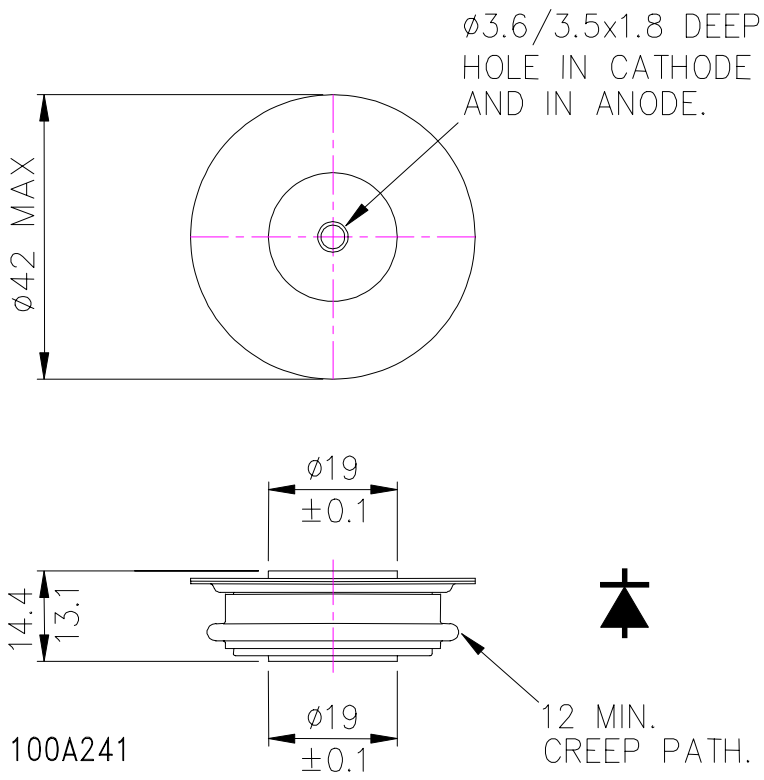


Figure 5 – Dissipation /Sink temperature v Mean forward current (Single side cooled)



Outline Drawing & Ordering Information



ORDERING INFORMATION (Please quote 10 digit code as below)		
W0944	**WC**	**♦♦♦**
Fixed Type Code	Fixed outline code	Voltage code V_{DRM}/10 120-150
Order code: W0944WC150, V_{RRM}1500V		

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