

**Capsule Rectifier Diode**

Consists of a diffused silicon element mounted in an hermetic ceramic cold welded capsule. Available in industry standard and thin housings.

Ratings	Unless otherwise stated $T_j = 150^\circ\text{C}$	Maximum Limits							Units
		46	48	50	52	54	56	58	
$V_{RRM}$	Voltage Codes								
$V_{RSM}$	Repetitive peak reverse voltage.	4600	4800	5000	5200	5400	5600	5800	V
	Non-repetitive peak reverse voltage.	4700	4900	5100	5300	5500	5700	5900	V
$I_{F(AV)}$	Average forward current	Half sine wave $\left\{ \begin{array}{l} 55^\circ\text{C heatsink temperature} \\ \text{(double side cooled)} \\ 100^\circ\text{C heatsink temperature} \\ \text{(single side cooled)} \end{array} \right.$						1295	A
$I_{F(RMS)}$	R.M.S forward current	25°C heatsink temperature, double side cooled						2400	A
$I_F$	Continuous forward current	25°C heatsink temperature, double side cooled						2160	A
$I_{FSM(1)}$	Peak one-cycle surge	10ms duration, 60% $V_{RRM}$ re-applied						10.0	KA
$I_{FSM(2)}$	Peak one-cycle surge	10ms duration, $V_R \leq 10$ volts						11.0	KA
$I^2 t_{(2)}$	Maximum permissible surge energy	10ms duration, $V_R \leq 10$ volts						$0.605 \times 10^6$	$\text{A}^2\text{s}$
$T_j$	Operating temperature range	3ms duration, $V_R \leq 10$ volts						$0.446 \times 10^6$	$\text{A}^2\text{s}$
$T_{stg}$	Storage temperature range							-55 to +150	$^\circ\text{C}$
								-55 to +190	$^\circ\text{C}$

Characteristics		Unless otherwise indicated $T_j = 150^\circ\text{C}$		
$V_{FM}$	Peak forward voltage	$I_F = 2340$ A	2.75	V
$V_O$	Forward conduction threshold voltage		1.15	V
$r$	Forward conduction slope resistance		0.684	$\text{m}\Omega$
$I_{RRM}$	Repetitive peak reverse current	At $V_{RRM}$	70.0	mA
$R_{th(j-hs)}$	Thermal resistance, junction to heat sink.	Double side cooled	0.022	$^\circ\text{C}/\text{W}$
		Single side cooled	0.044	$^\circ\text{C}/\text{W}$

**Ordering Information** (Please quote device code as explained below - 10 digits)

S	W	• •	• X C	5 0 0
Fixed type code	Voltage Code (see ratings)	CXC - Thick Housing DXC - Thin Housing	Fixed Type Code	

Typical code : SW50CXC500, 5000  $V_{RRM}$

Details of a full range of capsule mounting clamps are available - ask for brochure.

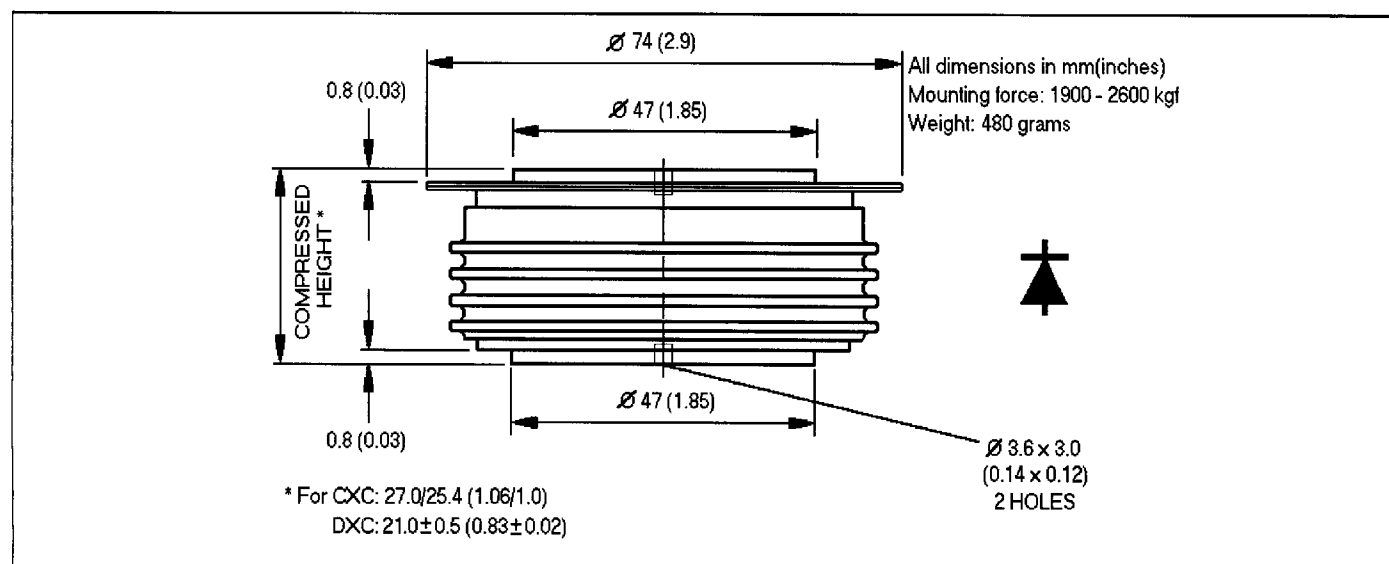


Figure 1. Dissipation/Sink Temperature v. Mean Forward Current.

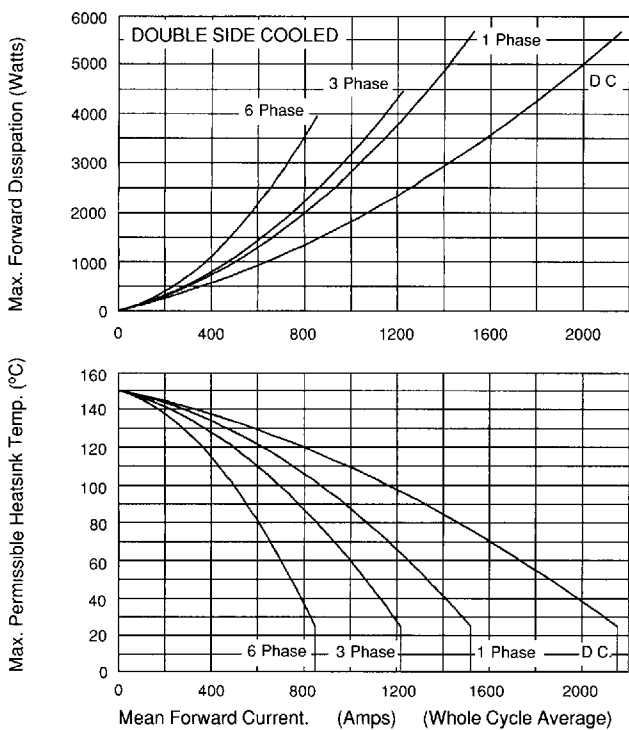


Figure 2. Dissipation/Sink Temperature v. Mean Forward Current.

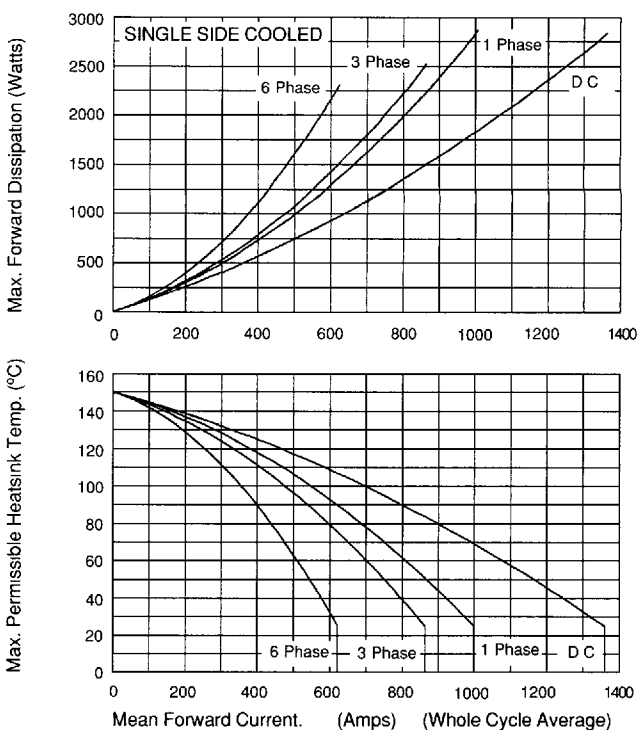
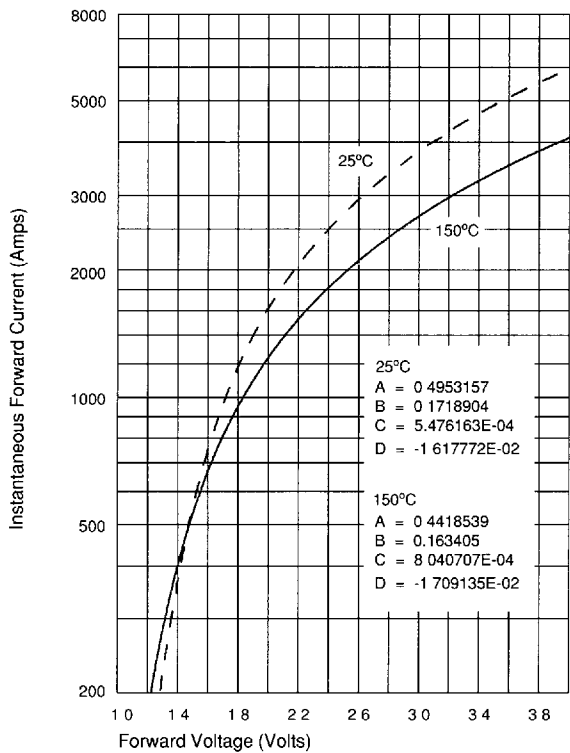


Figure 3. Limit Forward Characteristic at 150°C.



Forward volt-drop calculation :  
 $V_F = A + B \ln I_F + C I_F + D \sqrt{I_F}$

Figure 4. Junction to Sink Transient Thermal Impedance.

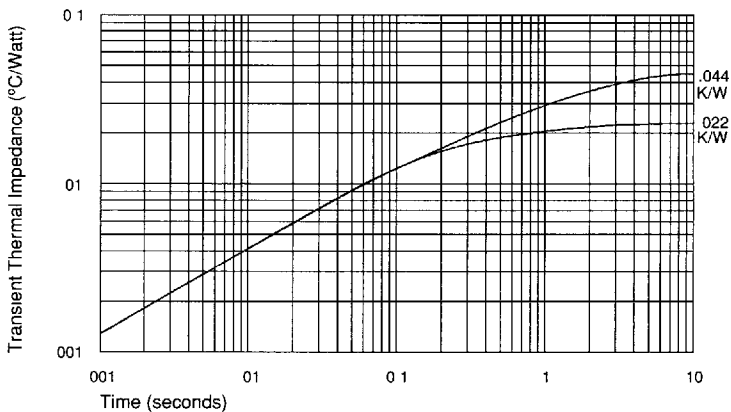
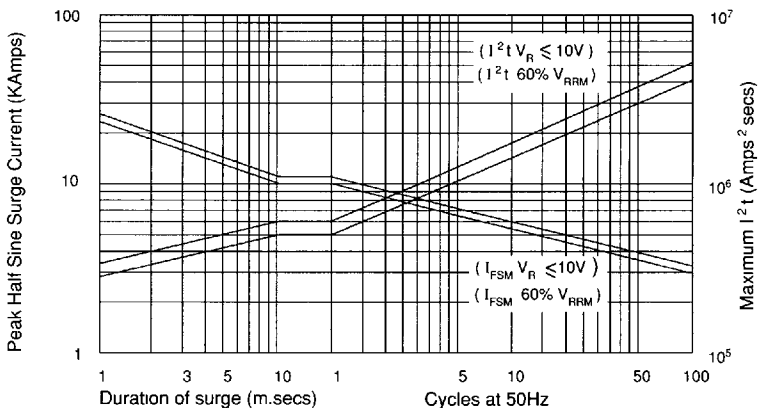


Figure 5. Non-Repetitive Surge Current at Initial Junction Temperature 150°C.



In the interest of product improvement, Westcode reserves the right to change specifications at any time without notice. © Westcode Semiconductors Ltd.



WESTCODE SEMICONDUCTORS LIMITED

P.O. BOX 57, Chippenham, Wiltshire, England SN15 1JL

Telephone (Sales) : (0249) 444524. Telex 44751.

Telefax : (0249) 659448