

# WESTCODE SEMICONDUCTORS

Series

SWxxC/DXC21C

## 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 $T_J = 160^\circ\text{C}$	Maximum Limits						Units
		20	22	24	26	28	30	
$V_{RRM}$	Repetitive peak reverse voltage.	2000	2200	2400	2600	2800	3000	V
$V_{RSM}$	Non-repetitive peak reverse voltage.	2100	2300	2500	2700	2900	3100	V
$I_{F(AV)}$	Average forward current	Half sine wave $\left\{ \begin{array}{l} 55^\circ\text{C heatsink temperature} \\ \text{(double side cooled)} \\ 100^\circ\text{C heatsink temperature} \\ \text{(single side cooled)} \end{array} \right.$					5300	A
$I_{F(RMS)}$	R.M.S forward current	25°C heatsink temperature, double side cooled					9830	A
$I_F$	Continuous forward current	25°C heatsink temperature, double side cooled					8200	A
$I_{FSM(1)}$	Peak one-cycle surge	10ms duration, 60% $V_{RRM}$ re-applied					60.0	KA
$I_{FSM(2)}$	Peak one-cycle surge	10ms duration, $V_R \leq 10$ volts					67.0	KA
$I^2 t_{(2)}$	Maximum permissible surge energy	10ms duration, $V_R \leq 10$ volts					$22.4 \times 10^6$	$\text{A}^2\text{s}$
$T_J$	Operating temperature range	3ms duration, $V_R \leq 10$ volts					$16.5 \times 10^6$	$\text{A}^2\text{s}$
$T_{stg}$	Storage temperature range						-55 to +160	$^\circ\text{C}$
							-55 to +190	$^\circ\text{C}$

Characteristics		Unless otherwise indicated $T_J = 160^\circ\text{C}$		
$V_{FM}$	Peak forward voltage	$I_F = 6000$ A	1.35	V
$V_O$	Forward conduction threshold voltage		0.97	V
$r$	Forward conduction slope resistance		0.064	$\text{m}\Omega$
$I_{RRM}$	Repetitive peak reverse current	At $V_{RRM}$	100.0	mA
$R_{th(j-hs)}$	Thermal resistance, junction to heat sink.	Double side cooled	0.011	$^\circ\text{C}/\text{W}$
		Single side cooled	0.022	$^\circ\text{C}/\text{W}$

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

S	W	• •	• X C	2 1 C
Fixed type code	Voltage Code (see ratings)		CXC - Thick Housing DXC - Thin Housing	Fixed Type Code

Typical code : SW24CXC21C, 2400  $V_{RRM}$

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

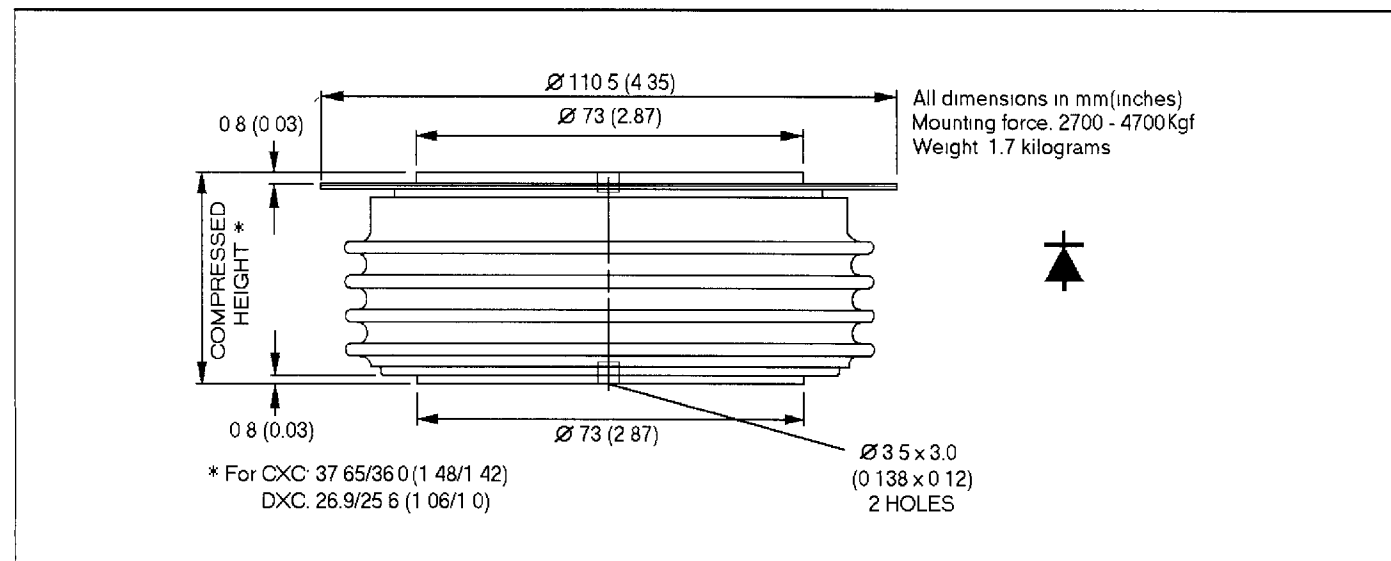


Figure 1. Dissipation/Sink Temperature v. Mean Forward Current.

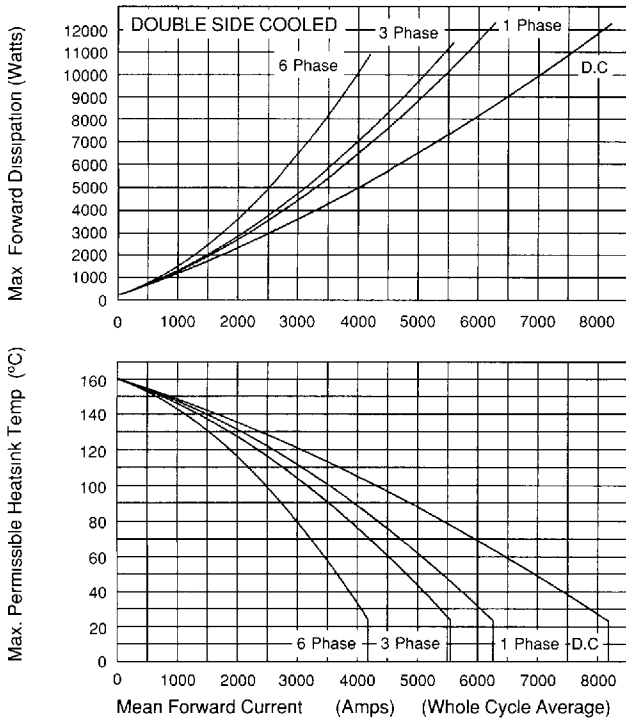


Figure 2. Dissipation/Sink Temperature v. Mean Forward Current.

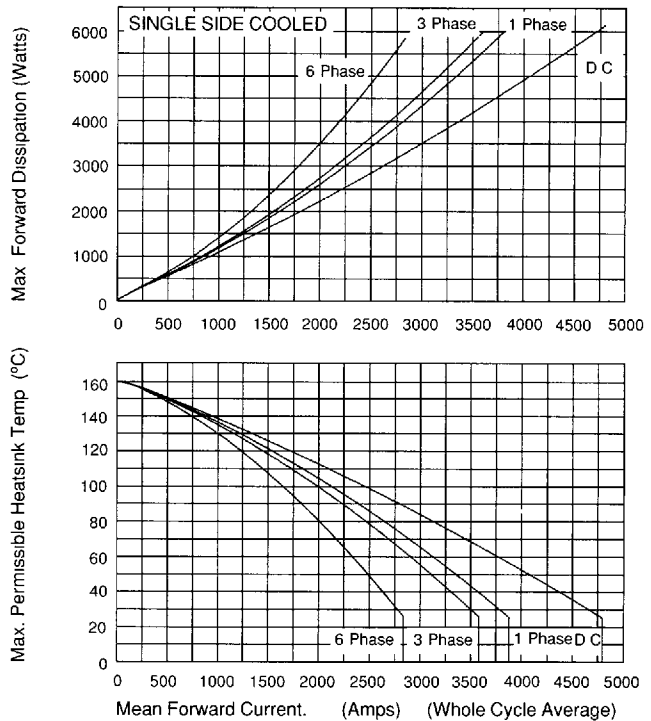
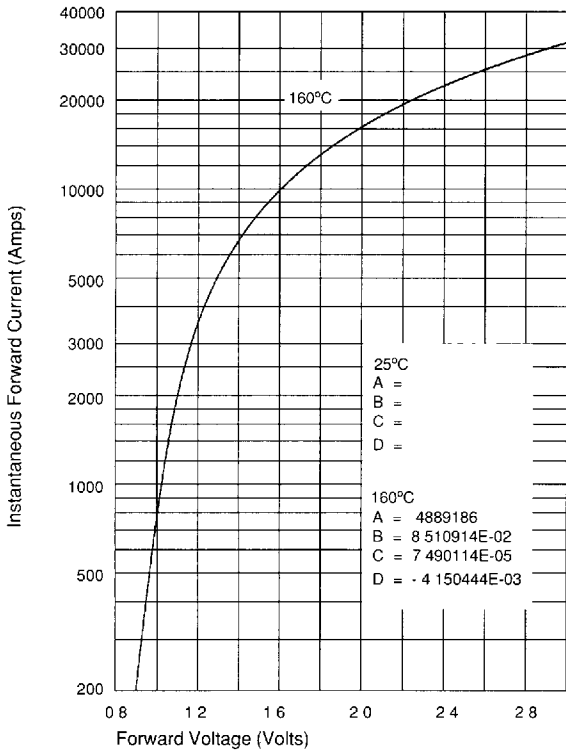


Figure 3. Limit Forward Characteristic at 160°C.



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.

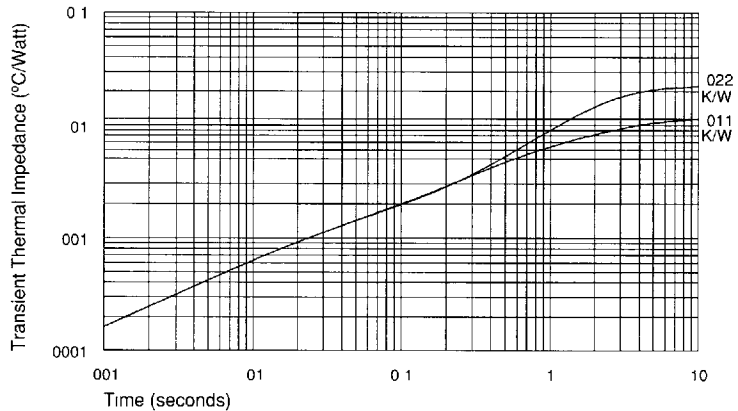
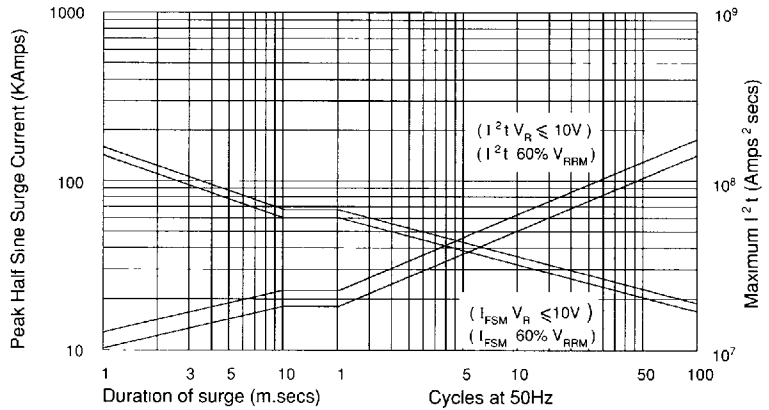


Figure 5. Non-Repetitive Surge Current at Initial Junction Temperature 160°C.



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



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