

WESTCODE SEMICONDUCTORS

Series

SWxxC/DXC930

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
	Voltage Codes	26	28	30	32	34	36	
V_{RRM}	Repetitive peak reverse voltage.	2600	2800	3000	3200	3400	3600	V
V_{RSM}	Non-repetitive peak reverse voltage.	2700	2900	3100	3300	3500	3700	V

$I_{F(AV)}$	Average forward current	Half sine wave	55°C heatsink temperature (double side cooled)	2130	A
			100°C heatsink temperature (single side cooled)	940	A
$I_{F(RMS)}$	R.M.S forward current	25°C heatsink temperature, double side cooled		3900	A
I_F	Continuous forward current	25°C heatsink temperature, double side cooled		3460	A
$I_{FSM(1)}$	Peak one-cycle surge	10ms duration, 60% V_{RRM} re-applied		20.0	KA
$I_{FSM(2)}$	Peak one-cycle surge	10ms duration, $V_R \leq 10$ volts		24.0	KA
$I^2 t_{(2)}$	Maximum permissible surge energy	10ms duration, $V_R \leq 10$ volts		2.88×10^6	$A^2 s$
		3ms duration, $V_R \leq 10$ volts		2.20×10^6	$A^2 s$
T_j	Operating temperature range			-55 to + 160	°C
T_{stg}	Storage temperature range			-55 to + 190	°C

Characteristics		Unless otherwise indicated $T_j = 160^\circ\text{C}$		
V_{FM}	Peak forward voltage	$I_F = 3800$ A	1.86	V
V_O	Forward conduction threshold voltage		0.865	V
r	Forward conduction slope resistance		0.26	$m\Omega$
I_{RRM}	Repetitive peak reverse current	At V_{RRM}	50.0	mA
$R_{th(j-hs)}$	Thermal resistance, junction to heat sink.	Double side cooled	0.022	°C/W
		Single side cooled	0.044	°C/W

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

S	W	• •	• X C	9 3 0
Fixed type code	Voltage Code (see ratings)	CXC - Thick Housing DXC - Thin Housing	Fixed Type Code	

Typical code : SW30CXC930, 3000 V_{RRM}

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

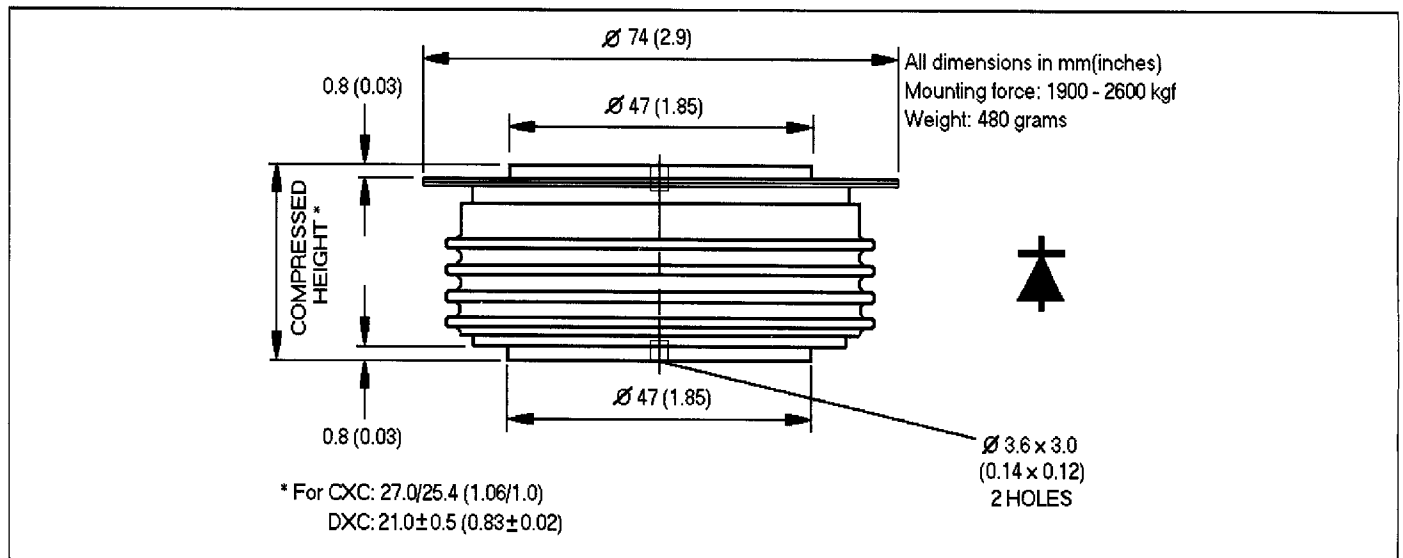


Figure 1. Dissipation/Sink Temperature v. Mean Forward Current.

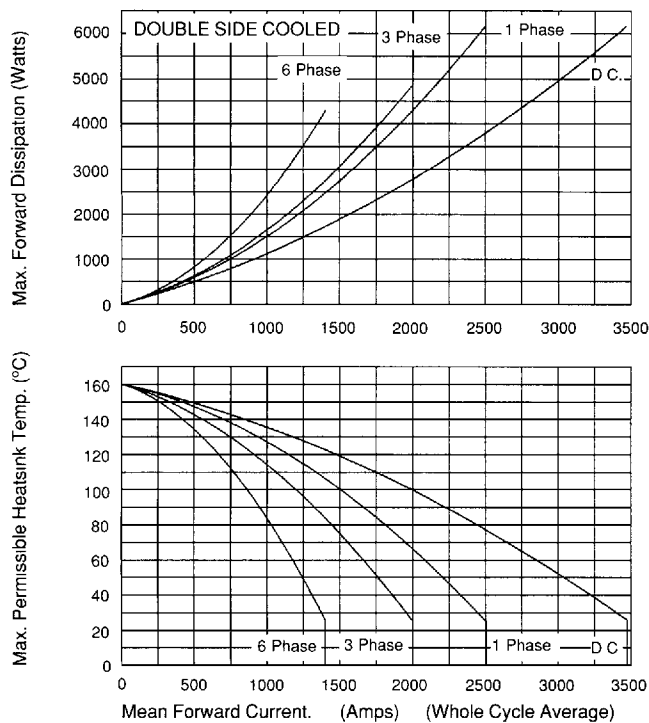


Figure 2. Dissipation/Sink Temperature v. Mean Forward Current.

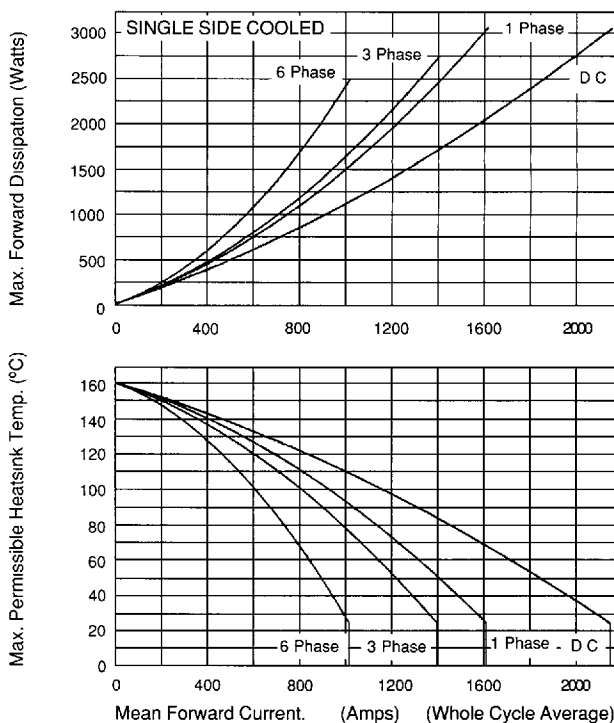
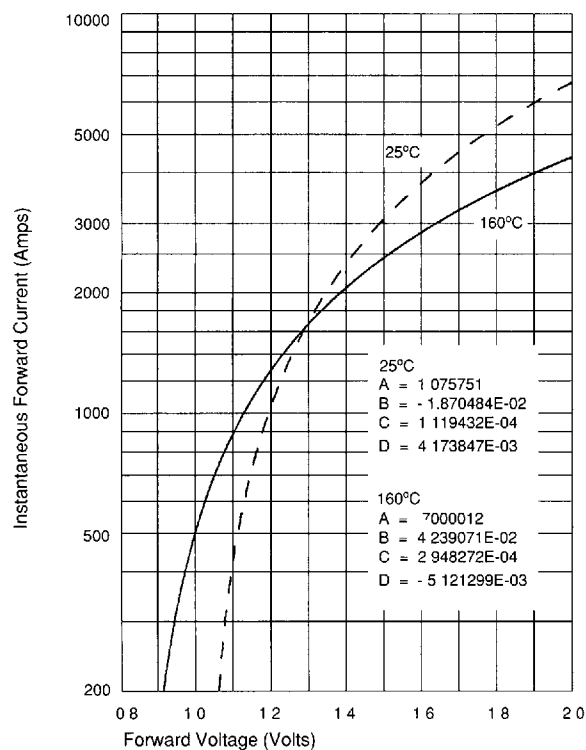


Figure 3. Limit Forward Characteristic at 160°C.



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.

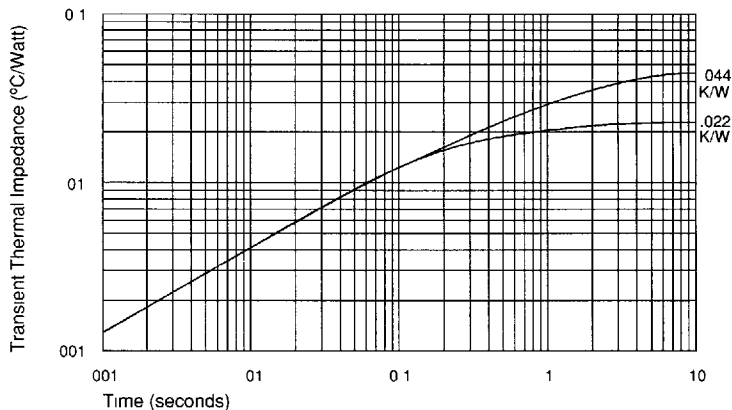
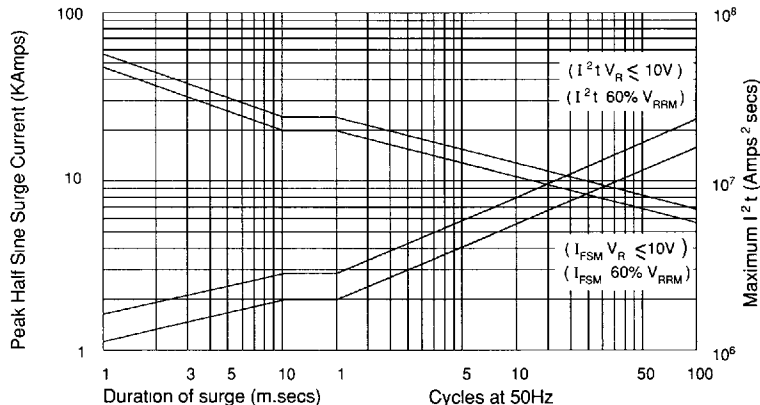


Figure 5. Non-Repetitive Surge Current at Initial Junction Temperature 160°C.



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



WESTCODE SEMICONDUCTORS LIMITED

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

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

Telefax : (0249) 659448