WESTCODE SEMICONDUCTORS

Series SWxxC/DXC27C

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 Tj = 190°C	Maximum Limits							Units
	Voltage Codes	**02**	**04**	**06**	**08**	**10**	**12**	**14**	
V_{RRM}	Repetitive peak reverse voltage.	200	400	600	800	1000	1200	1400	V
V_{RSM}	Non-repetitive peak reverse voltage.	300	500	700	900	1100	1300	1500	V

$I_{F(AV)}$	Average forward current	Half sine wave, 55°C heatsink temperature (double side cooled)	5700	A
		Half sine wave, 100°C heatsink temperature (single side cooled)	2700	A
$I_{F(RMS)}$	R.M.S forward current	25°C heatsink temperature, double side cooled	10160	A
I_F	Continuous forward current	25°C heatsink temperature, double side cooled	8810	A
$I_{FSM(1)}$	Peak one-cycle surge	10ms duration, 60% V_{RRM} re-applied	53.0	KA
$I_{FSM(2)}$	Peak one-cycle surge	10ms duration, $V_R \leq 10$ volts	59.0	KA
$I^2t_{(2)}$	Maximum permissible surge energy	10ms duration, $V_R \leq 10$ volts	17.4×10^6	A^2s
		3ms duration, $V_R \leq 10$ volts	13.5×10^6	A^2s
Tj	Operating temperature range		−55 to + 190	°C
T_{stg}	Storage temperature range		−55 to + 200	°C

Characteristics	Unless otherwise indicated Tj = 190°C			
V_{FM}	Peak forward voltage	I_F = 6800 A	1.05	V
V_O	Forward conduction threshold voltage		0.65	V
r	Forward conduction slope resistance		0.059	mΩ
I_{RRM}	Repetitive peak reverse current	At V_{RRM}	60.0	mA
$R_{th(j-hs)}$	Thermal resistance, junction to heat sink.	Double side cooled	0.016	°C/W
		Single side cooled	0.032	°C/W

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

S W	● ●	● X C	2 7 C
Fixed type code	Voltage Code (see ratings)	CXC - Thick Housing DXC - Thin Housing	Fixed Type Code

Typical code : SW10CXC27C, 1000 V_{RRM}

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

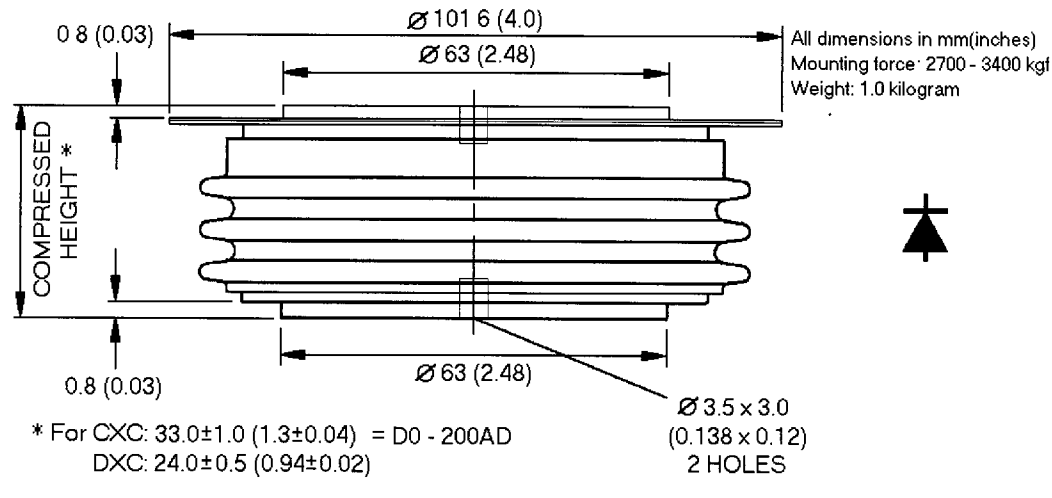


Figure 1. Dissipation/Sink Temperature v. Mean Forward Current.

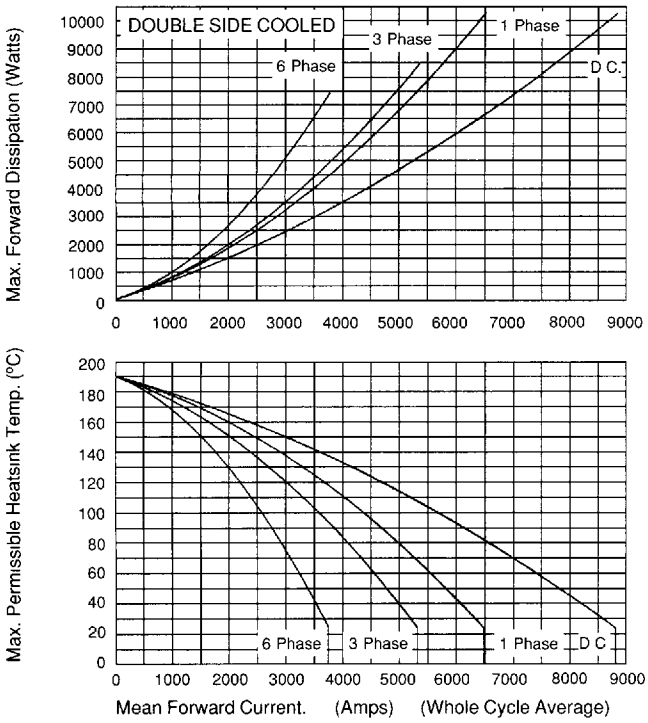


Figure 2. Dissipation/Sink Temperature v. Mean Forward Current.

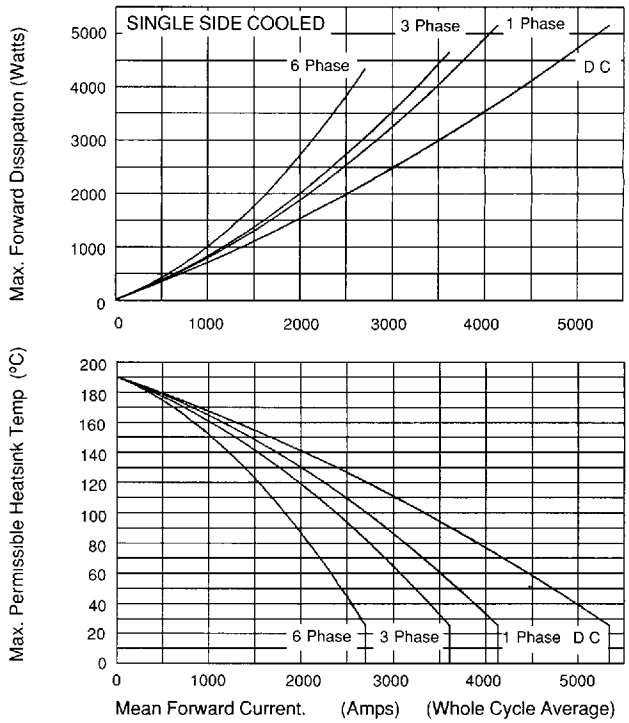
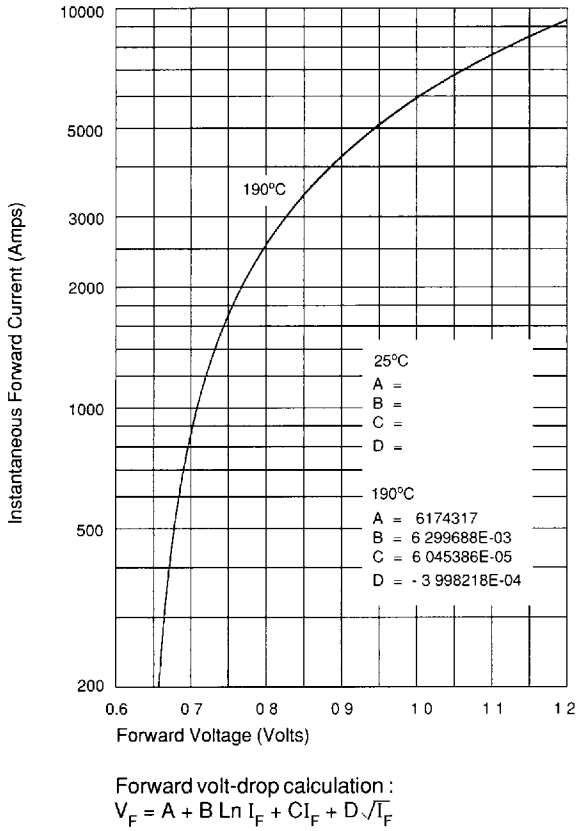


Figure 3. Limit Forward Characteristic at 190°C.



Forward volt-drop calculation :

$V_F = A + B \ln I_F + CI_F + D\sqrt{T_F}$

Figure 4. Junction to Sink Transient Thermal Impedance.

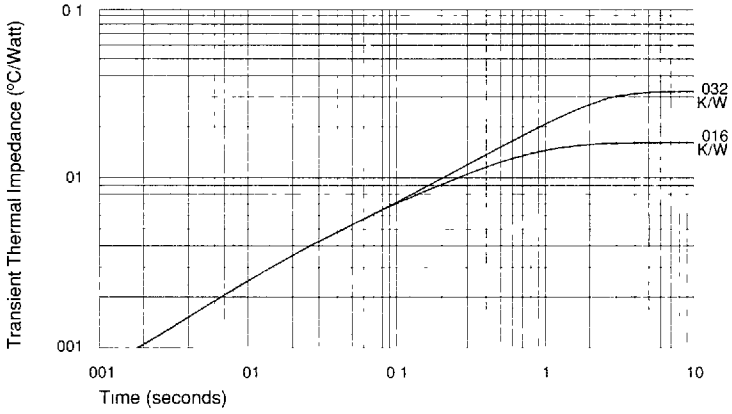
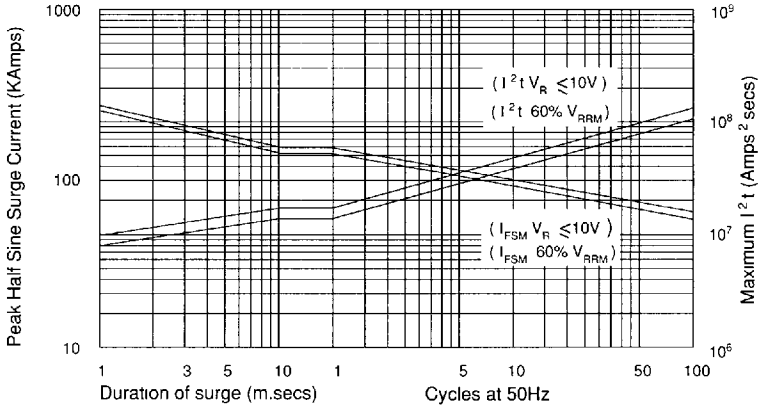


Figure 5. Non-Repetitive Surge Current at Initial Junction Temperature 190°C.



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