



WESTCODE SEMICONDUCTORS



 TECHNICAL
PUBLICATION

DC 320

ISSUE 2

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Ceramic Capsule Silicon Diodes Type CXC 320

620 amperes average: up to 2400 volts V_{RRM}

RATINGS Maximum values at 180°C T_j unless stated otherwise

RATING	CONDITIONS	SYMBOL	
Average forward current	Half sine wave { 55°C heatsink temperature (double side cooled) 100°C heatsink temperature (single side cooled)	$I_{F(AV)}$	620A 280A
RMS current	25°C heatsink temp., double side cooled	$I_{F(RMS)}$	1100A
DC forward current	25°C heatsink temp., double side cooled	I_F	960A
Peak one-cycle surge (non repetitive) of forward current	10ms duration { 60% V_{RRM} re-applied $V_R \leq 10$ volts	$I_{FSM(1)}$ $I_{FSM(2)}$	4000A 4400A
Maximum permissible surge energy	10ms duration { 60% V_{RRM} re-applied $V_R \leq 10$ volts 3ms duration $V_R \leq 10$ volts	$I^2 t (1)$ $I^2 t (2)$	80000A ² s 96800A ² s 71580A ² s
Operating temperature range		T_{hs}	-30, +180°C
Storage temperature		T_{stg}	-40, +200°C

CHARACTERISTICS Maximum values at 180°C T_j unless stated otherwise

CHARACTERISTIC	CONDITIONS	SYMBOL	
Peak forward voltage drop	At 1440A, I_{FM}	V_{FM}	2.2V
Forward conduction threshold voltage		V_0	1V
Forward conduction slope resistance		r	0.83mΩ
Peak reverse current	At V_{RRM}	I_{RRM}	15mA
Thermal resistance junction to heatsink for a device with a maximum forward volt-drop characteristic.	Capsule Single side cooled Double side cooled	$R_{th(j-hs)}$	0.18°C/W 0.09°C/W

VOLTAGE CODE →	16	18	20	22	24				
Repetitive voltage V_{RRM}	1600	1800	2000	2200	2400				
Non-repetitive voltage V_{RSM}	1700	1900	2100	2300	2500				

ORDERING INFORMATION (Please quote device code as explained below — 10 digits)

S	W	●	●	C	X	C	3	2	0
FIXED BASIC CODE	VOLTAGE CODE (see above)	FIXED OUTLINE CODE DO — 200 AA cold weld capsule				FIXED TYPE CODE			

 Typical code SW22CXC320 = 2200V_{RRM} type CXC320 diode

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

D C320

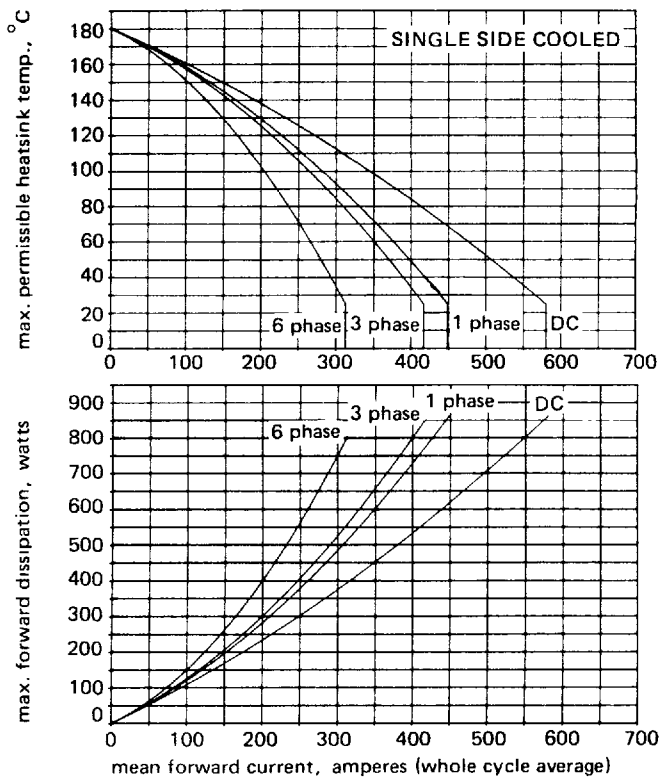
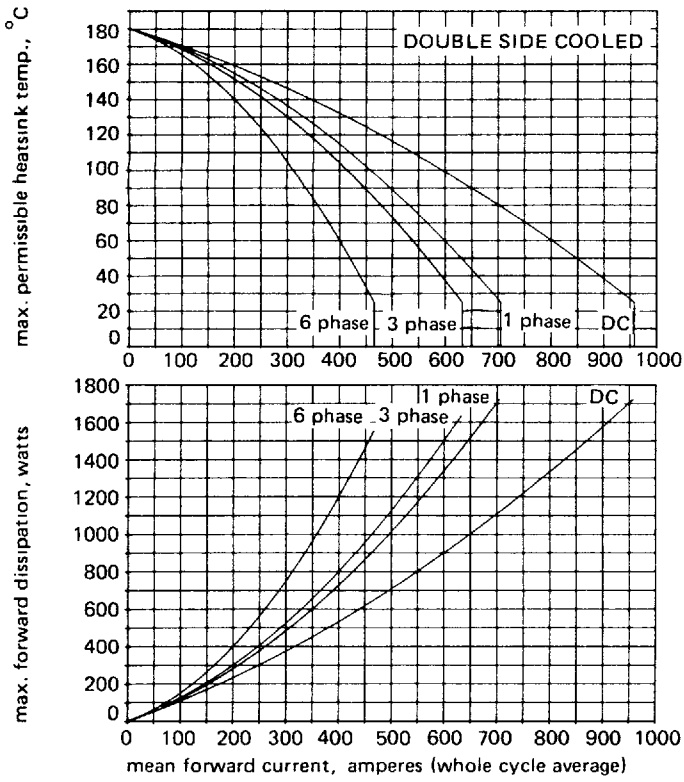


Figure 1 Dissipation / sink temperature v. mean forward current

Figure 2 Dissipation / sink temperature v. mean forward current

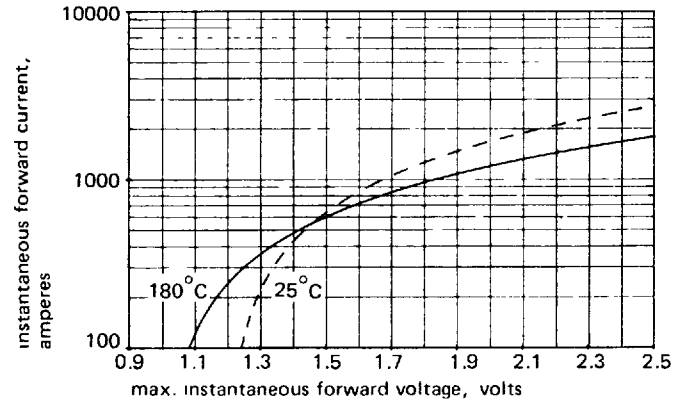


Figure 3 Forward voltage characteristic

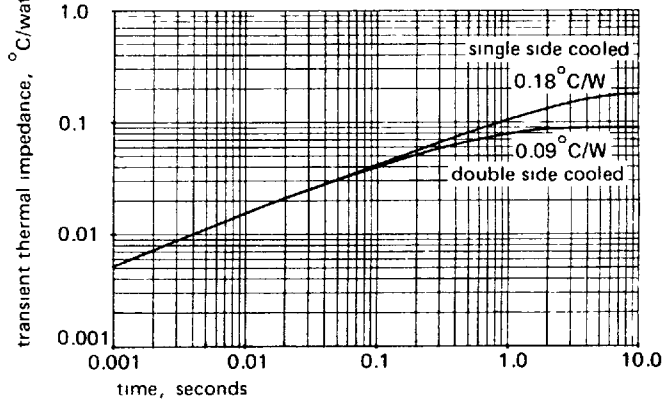


Figure 4 Transient thermal impedance, junction to heatsink

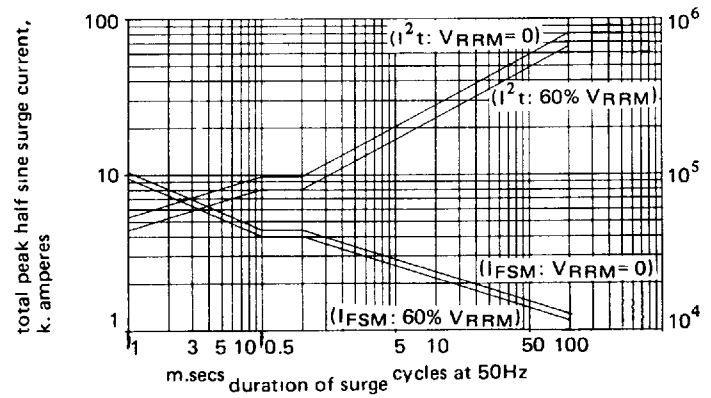
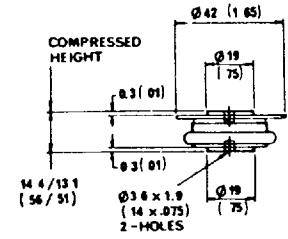


Figure 5 Max. non repetitive surge current at initial junction temperature 180°C



DO - 200 AA

Dimensions in mm (inches)
 Mounting Force: 330 - 550 Kg
 Weight: 70 grams



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