



WESTCODE SEMICONDUCTORS


**TECHNICAL
PUBLICATION**
DC 380
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Ceramic Capsule Silicon Diodes Type CXC380

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

RATINGS Maximum values at 180°C Tj 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)	$I_{F(AV)}$	640A 290A
RMS current	25°C heatsink temp., double side cooled	$I_{F(RMS)}$	1160A
DC forward current	25°C heatsink temp., double side cooled	I_F	1000 A
Peak one-cycle surge (non repetitive) of forward current	10ms duration { 60% V_{RRM} re-applied $V_R \leq 10$ volts	$I_{FSM(1)}$ $I_{FSM(2)}$	5500A 6050A
Maximum permissible surge energy	10ms duration { 60% V_{RRM} re-applied $V_R \leq 10$ volts 3ms duration $V_R \leq 10$ volts	$I^2 t (1)$ $I^2 t (2)$	151000A ² s 183000A ² s 135000A ² s
Operating temperature range		T_{hs}	-30, + 180°C
Storage temperature		T_{stg}	-40, + 200°C

CHARACTERISTICS Maximum values at 180°C Tj unless stated otherwise

CHARACTERISTIC	CONDITIONS	SYMBOL	
Peak forward voltage drop	At 1500A, I_{FM}	V_{FM}	2.1V
Forward conduction threshold voltage		V_0	1V
Forward conduction slope resistance		r	0.74mΩ
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	8	0
FIXED BASIC CODE	VOLTAGE CODE (see above)	FIXED OUTLINE CODE DO – 200 AA cold weld capsule				FIXED TYPE CODE			

 Typical code SW22CXC380 = 2200V_{RRM} type CXC380 diode

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

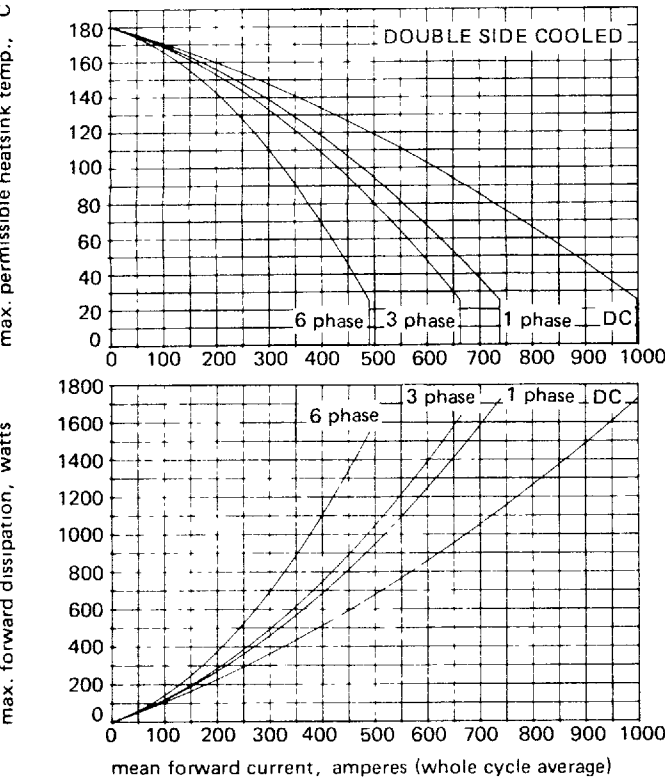


Figure 1 Dissipation / sink temperature v. mean forward current

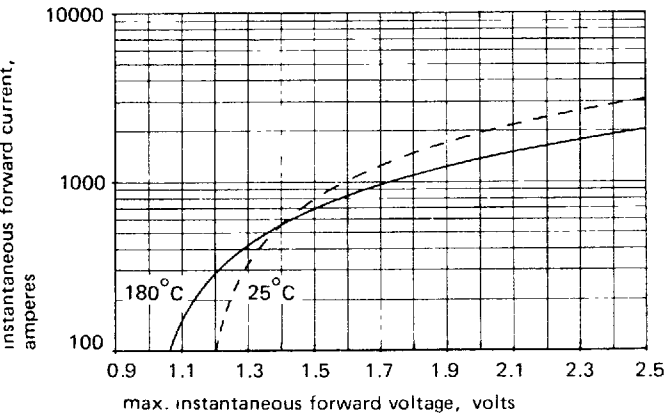


Figure 3 Forward voltage characteristic

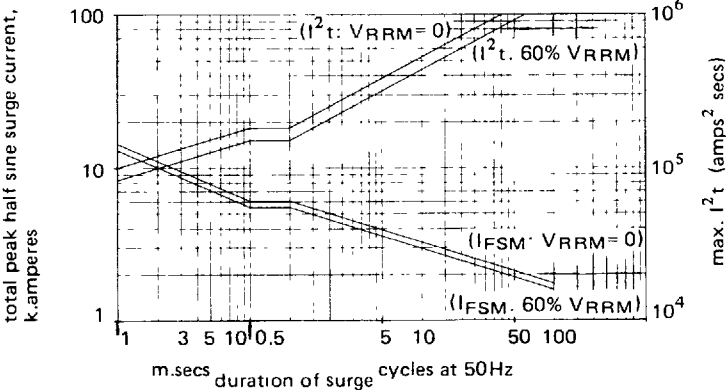


Figure 5 Max. non repetitive surge current at initial junction temperature 180°C

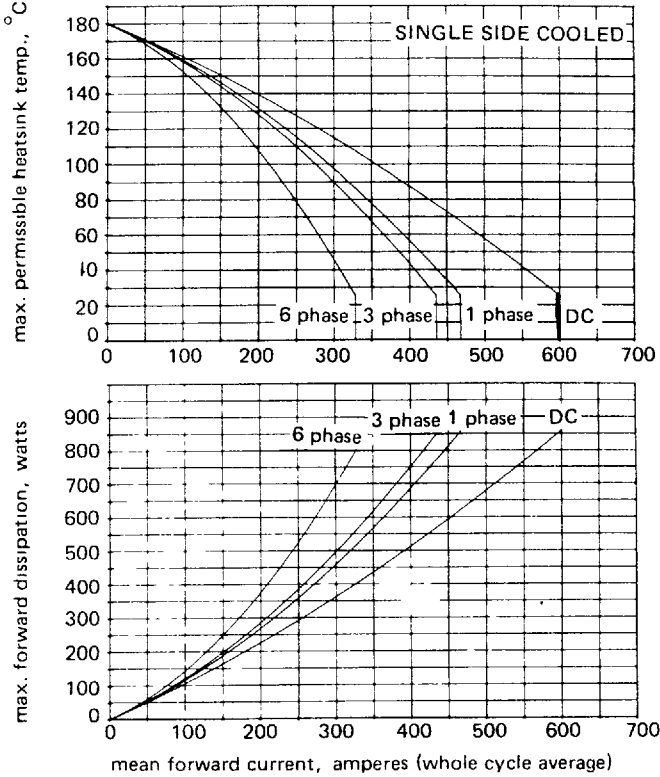


Figure 2 Dissipation / sink temperature v. mean forward current

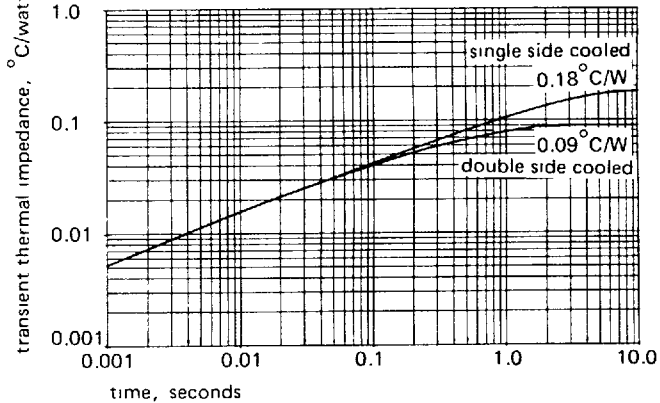
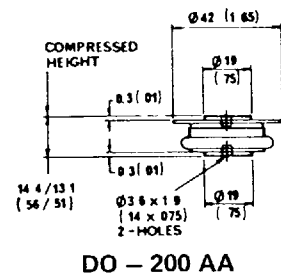


Figure 4 Transient thermal impedance, junction to heatsink



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



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