WESTCODE SEMICONDUCTORS

TECHNICAL PUBLICATION
DC400
ISSUE 1
June, 1980

Ceramic Capsule Silicon Diodes Type CXC400

800 amperes average: up to1500 volts V_{RRM}

RATINGS Maximum values at 190°C Tj unless stated otherwise

RATING	CONDITIONS	SYMBOL	
Average forward current	Half sine wave { 55°C heatsink temperature (double side cooled)	$I_{F(AV)}$	800A
	Half sine wave { 100°C heatsink temperature (single side cooled)	$I_{F(AV)}$	380A
RMS current	25°C heatsink temp., double side cooled	$I_{F(RMS)}$	1420A
DC forward current	25°C heatsink temp., double side cooled	I_F	1240A
Peak one-cycle surge (non repetitive) of forward current	8.3ms duration { 60% V_{RRM} re-applied; $V_R \leqslant$ 10 volts	$I_{FSM(1)}$	7950A
	8.3ms duration { 60% V_{RRM} re-applied; $V_R \leqslant$ 10 volts	$I_{FSM(2)}$	8745A
Maximum permissible surge energy	8.3ms duration { 60% V_{RRM} re-applied; $V_R \leqslant$ 10 volts	I^2t (1)	272570A^2s
	8.3ms duration { 60% V_{RRM} re-applied; $V_R \leqslant$ 10 volts	I^2t (2)	329800A^2s
	3ms duration $V_R \leqslant$ 10 volts		245000A^2s
Operating temperature range		T_{hs}	-30 + 190°C
Storage temperature		T_{stg}	-40 + 200°C

CHARACTERISTICS Maximum values at 190°C Tj unless stated otherwise

CHARACTERISTIC	CONDITIONS	SYMBOL	
Peak forward voltage drop	At 1930A, I_{FM}	V_{FM}	1.86V
Forward conduction threshold voltage		V_0	0.8V
Forward conduction slope resistance		r	0.55mΩ
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	$R_{th(j-hs)}$	0.18°C/W
	Capsule Double side cooled	$R_{th(j-hs)}$	0.09°C/W

VOLTAGE CODE →	02	04	06	08	10	12	14	15	
Repetitive voltage V_{RRM}	200	400	600	800	1000	1200	1400	1500	
Non-repetitive voltage V_{RSM}	300	500	700	900	1100	1300	1500	1600	

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

S W	● ●	C X C	4 0 0
FIXED BASIC CODE	VOLTAGE CODE (see above)	FIXED OUTLINE CODE DO – 200 AA cold weld capsule	FIXED TYPE CODE

Typical code SW12CXC400 = 1200V_{RRM} type CXC400 diode

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

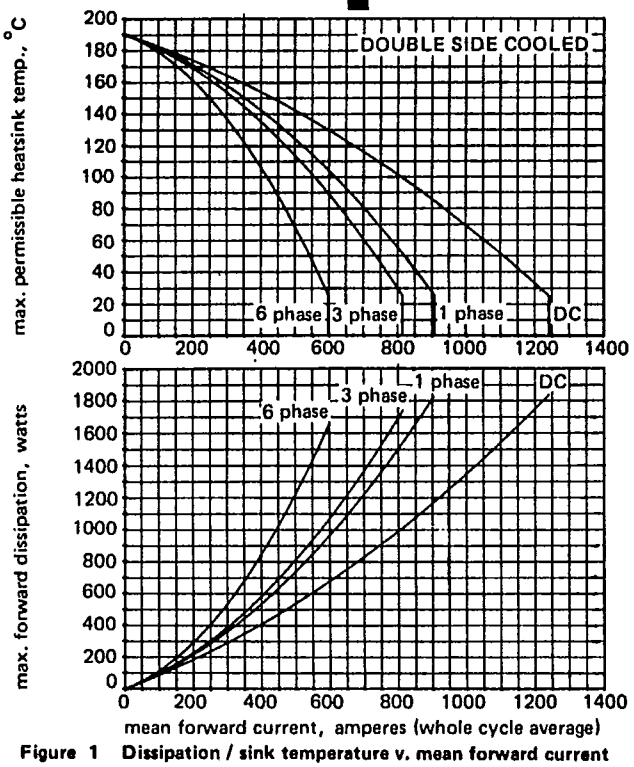


Figure 1 Dissipation / sink temperature v. mean forward current

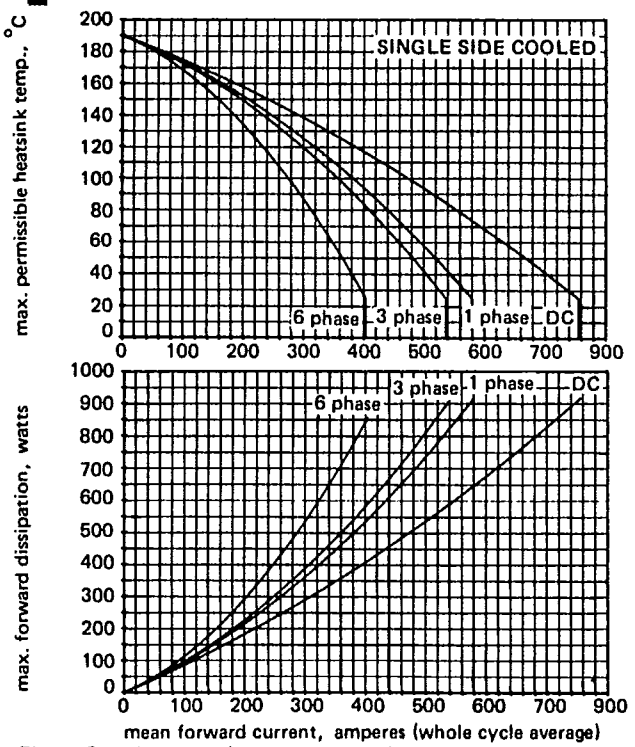


Figure 2 Dissipation / sink temperature v. mean forward current

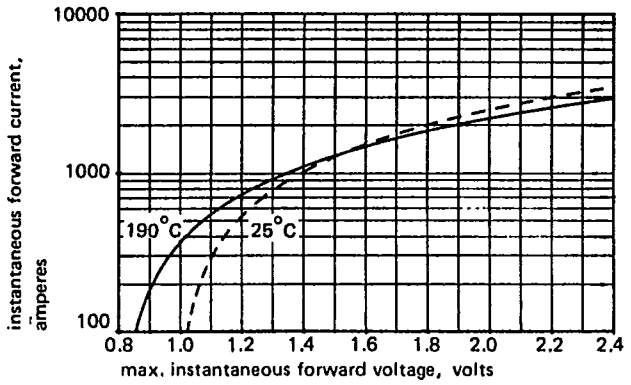


Figure 3 Forward voltage characteristic

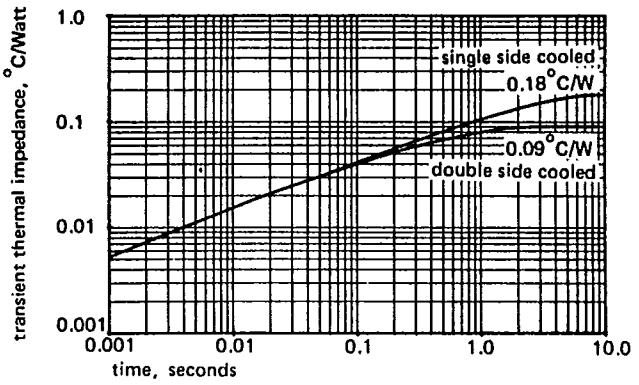


Figure 4 Transient thermal impedance, junction to heatsink

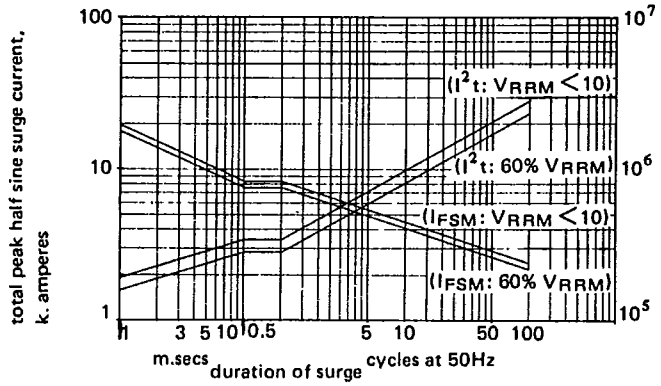
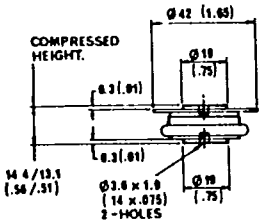


Figure 5 Max. non repetitive surge current at initial junction temperature 190°C



DO – 200AA

Dimensions in mm (inches)

Mounting Force: 330 – 550 Kg

Weight: 70 grams

Westcode Semiconductors
0-02 Fair Lawn Avenue
Fair Lawn, New Jersey 07410
Telephone: (201) 791-3020
Telex: 130389