



WESTCODE SEMICONDUCTORS

 Technical
Publication

DC820

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Ceramic Capsule Silicon Diodes Type CXC820

 1770 amperes average: up to 3600 volts V_{RRM}

RATINGS Maximum values at 160°C, T_j , unless stated otherwise

RATING	CONDITIONS	SYMBOL	
Average forward current	Half sine wave $\left\{ \begin{array}{l} 55^\circ\text{C heatsink temperature} \\ \text{(double side cooled)} \\ 100^\circ\text{C heatsink temperature} \\ \text{(single side cooled)} \end{array} \right.$	$I_{F(AV)}$	1770A 760A
R.M.S current	25°C heatsink temperature, double side cooled	$I_F(RMS)$	3265A
DC forward current	25°C heatsink temperature, double side cooled	I_F	2860A
Peak one-cycle surge (non-repetitive) of forward current	8.3ms duration $\left\{ \begin{array}{l} 60\% V_{RRM} \text{ re-applied} \\ V_R \leq 10 \text{ volts} \end{array} \right.$	$I_{FSM}(1)$ $I_{FSM}(2)$	20670A 22737A
Maximum permissible surge energy	8.3ms duration $\left\{ \begin{array}{l} 60\% V_{RRM} \text{ re-applied} \\ V_R \leq 10 \text{ volts} \end{array} \right.$ 3ms duration $V_R \leq 10 \text{ volts}$	$I^2t(1)$ $I^2t(2)$	1843000A ² s 2231000A ² s 1680000A ² s
Operating temperature range		T_{hs}	-30 +160°C
Storage temperature		T_{stg}	-40 +200°C

CHARACTERISTICS Maximum values at 160°C, T_j , unless stated otherwise

CHARACTERISTIC	CONDITIONS	SYMBOL	
Peak forward voltage drop	At 3800A, I_{FM}	V_{FM}	1.96V
Forward conduction threshold voltage		V_O	0.865V
Forward conduction slope resistance		r	0.288mΩ
Peak reverse current	At V_{RRM}	I_{RRM}	50mA
Thermal resistance, junction to heat sink for a device with a maximum forward volt-drop characteristic	Capsule Single side cooled Double side cooled	$R_{th(j-hs)}$	0.056°C/W 0.028°C/W

VOLTAGE CODE	26	28	30	32	34	36			
Repetitive voltage V_{RRM}	2600	2800	3000	3200	3400	3600			
Non-repetitive voltage V_{RSM}	2700	2900	3100	3300	3500	3700			

ORDERING INFORMATION

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

S	W	●	●	C	X	C	8	2	0
Fixed basic code	Voltage Code (see above)	Fixed outline code DO-200AC cold weld capsule				Fixed type code			

 Typical code: SW32CXC820 = 3200V_{RRM} type CXC820 diode

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

DC820

34 DE 9709955 0001488 5

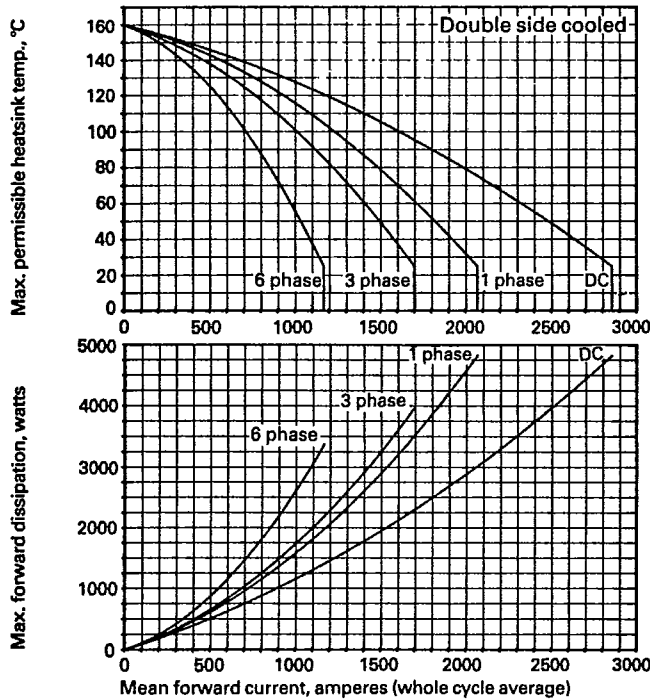


Figure 1 Dissipation/sink temperature v. mean forward current

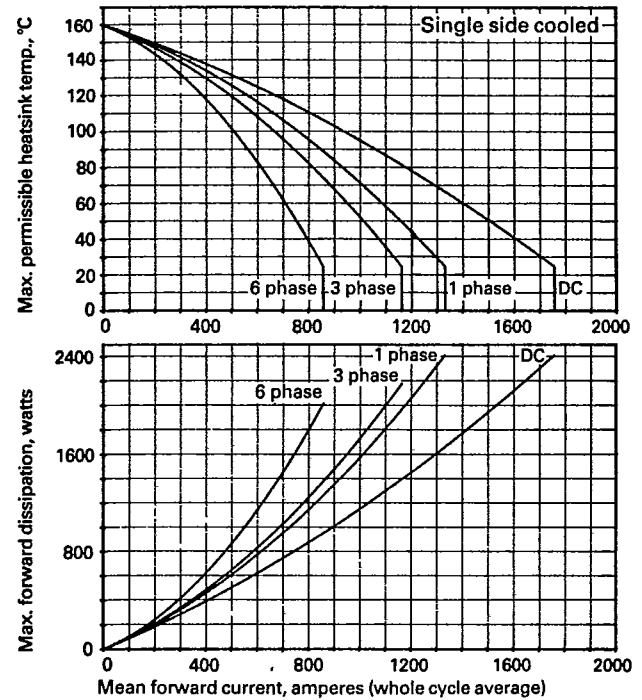


Figure 2 Dissipation/sink temperature v. mean forward current

