



**WESTCODE
SEMICONDUCTORS**

Technical Publication
DC635
Issue 1
February 1981

Ceramic Capsule Silicon Diodes Type CXC635

1420 amperes average: up to 3000 volts V_{RRM}

RATINGS Maximum values at 160°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)	$I_{F(AV)}$	1420A 630A
R.M.S current	25°C heatsink temperature, double side cooled	$I_{F(RMS)}$	2610A
DC forward current	25°C heatsink temperature, double side cooled	I_F	2460A
Peak one-cycle surge (non-repetitive) of forward current	8.3ms duration { 60% V_{RRM} re-applied $V_R \leq 10$ volts	$I_{FSM} (1)$ $I_{FSM} (2)$	13460A 15470A
Maximum permissible surge energy	8.3ms duration { 60% V_{RRM} re-applied $V_R \leq 10$ volts	$I^2t (1)$ $I^2t (2)$	776000A ² s 1037900A ² s
Operating temperature range	3ms duration $V_R \leq 10$ volts	T_{hs}	790000A ² s
Storage temperature		T_{stg}	-30 +160°C -40 +185°C

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

CHARACTERISTIC	CONDITIONS	SYMBOL	
Peak forward voltage drop	At 3090A, I_{FM}	V_{FM}	1.87V
Forward conduction threshold voltage		V_0	0.87V
Forward conduction slope resistance		r	0.323mΩ
Peak reverse current	At V_{RRM}	I_{RRM}	30mA
Thermal resistance, junction to heat sink for a device with a maximum forward volt-drop characteristic	Capsule Single side cooled Double side cooled	$R_{th(j-hs)}$	0.065°C/W 0.033°C/W

VOLTAGE CODE	→	24	26	28	30				
Repetitive voltage	V_{RRM}	2400	2600	2800	3000				
Non-repetitive voltage	V_{RSM}	2500	2700	2900	3100				

ORDERING INFORMATION

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

S	W	●	●	C	X	C	6	3	5
Fixed basic code		Voltage Code (see above)		Fixed outline code DO-200 AB cold weld capsule		Fixed type code			

Typical code: SW28CXC635 = 2800V_{RRM} type CXC635 diode

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

DC635

34 DE 9709955 0001482 4

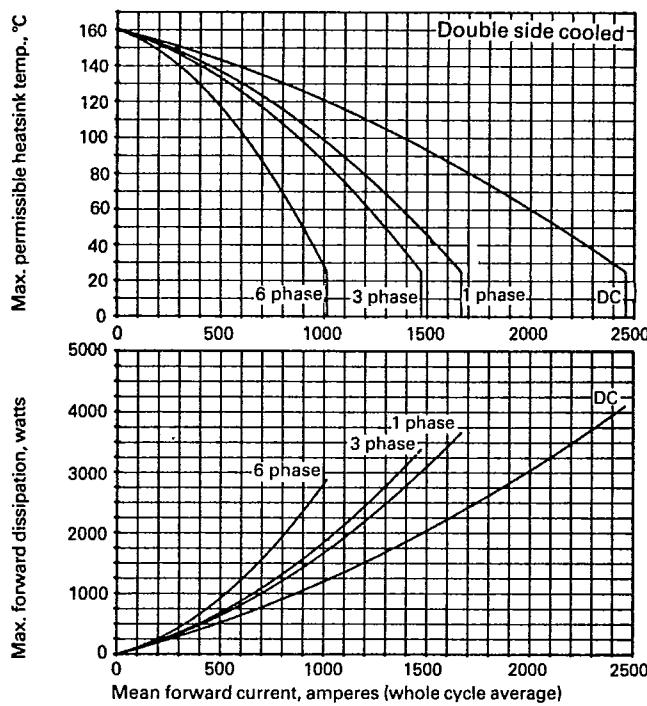


Figure 1 Dissipation/sink temperature v. mean forward current

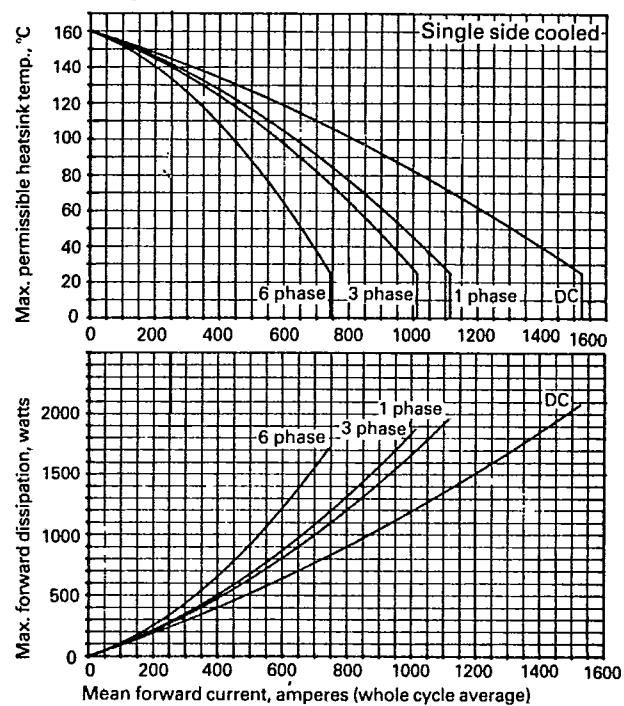


Figure 2 Dissipation/sink temperature v. mean forward current

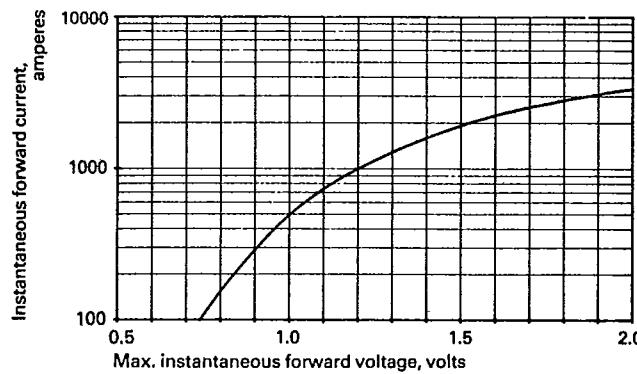


Figure 3 Forward voltage characteristic

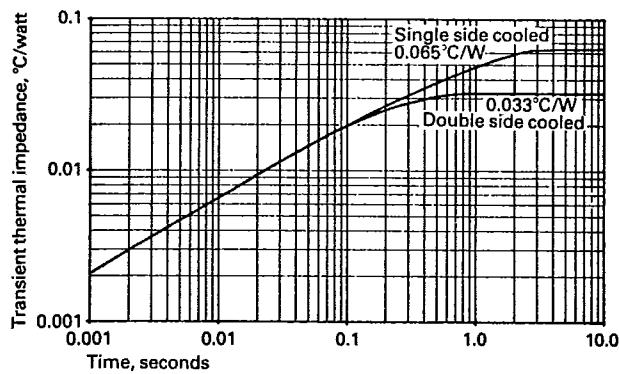


Figure 4 Transient thermal impedance, junction to heatsink

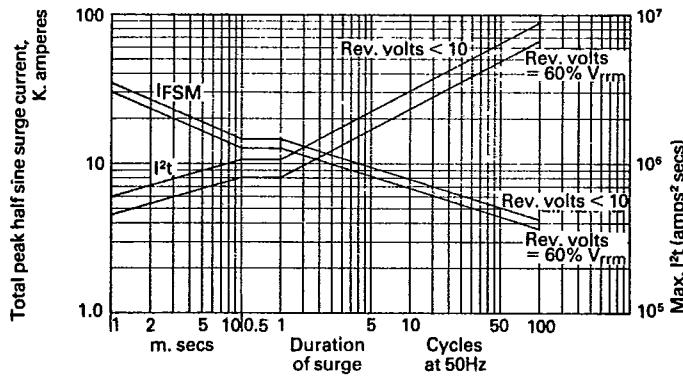
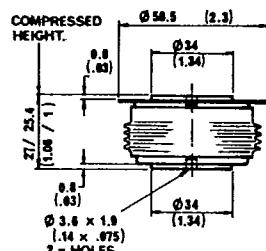


Figure 5 Max. non repetitive surge current at initial junction temperature 160°C



DO-200 AB

Dimensions in mm (inches)

Mounting force: 1000 - 2000 Kg,

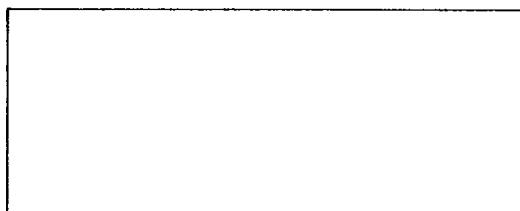
Weight: 340 grams

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