WESTCODE SEMICONDUCTORS

Technical Publication
DC595
Issue 1
February 1981

Ceramic Capsule Silicon Diodes Type CXC595

1315 amperes average: up to 3600 volts V_{RRM}

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

RATING	CONDITIONS	SYMBOL	
Average forward current	Half sine wave: 55°C heatsink temperature (double side cooled)	$I_{F(AV)}$	1315A
	Half sine wave: 100°C heatsink temperature (single side cooled)		590A
R.M.S current	25°C heatsink temperature, double side cooled	$I_{F(RMS)}$	2420A
DC forward current	25°C heatsink temperature, double side cooled	I_F	2288A
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)	11230A
	8.3ms duration, $V_R \leq 10$ volts	I_{FSM} (2)	12930A
Maximum permissible surge energy	8.3ms duration, 60% V_{RRM} re-applied, $V_R \leq 10$ volts	I^2t (1)	545100A²s
	8.3ms duration, $V_R \leq 10$ volts	I^2t (2)	710000A²s
			540000A²s
Operating temperature range		T_{hs}	−30 +160°C
Storage temperature		T_{stg}	−40 +185°C

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

CHARACTERISTIC	CONDITIONS	SYMBOL	
Peak forward voltage drop	At 2870A, I_{FM}	V_{FM}	2V
Forward conduction threshold voltage		V_O	0.9V
Forward conduction slope resistance		r	0.388mΩ
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	$R_{th(j\text{-}hs)}$	0.065°C/W
	Double side cooled		0.033°C/W

VOLTAGE CODE →		32	34	36						
Repetitive voltage	V_{RRM}	3200	3400	3600						
Non-repetitive voltage	V_{RSM}	3300	3500	3700						

ORDERING INFORMATION

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

S W	● ●	C X C	5 9 5
Fixed basic code	Voltage Code (see above)	Fixed outline code DO-200 AB cold weld capsule	Fixed type code

Typical code: SW36CXC595 = 3600V_{RRM} type CXC595 diode

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

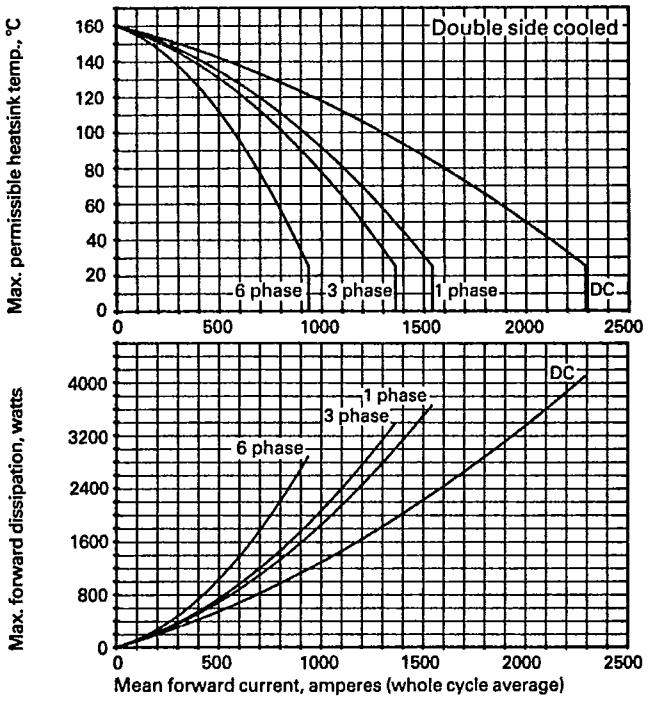


Figure 1 Dissipation/sink temperature v. mean forward current

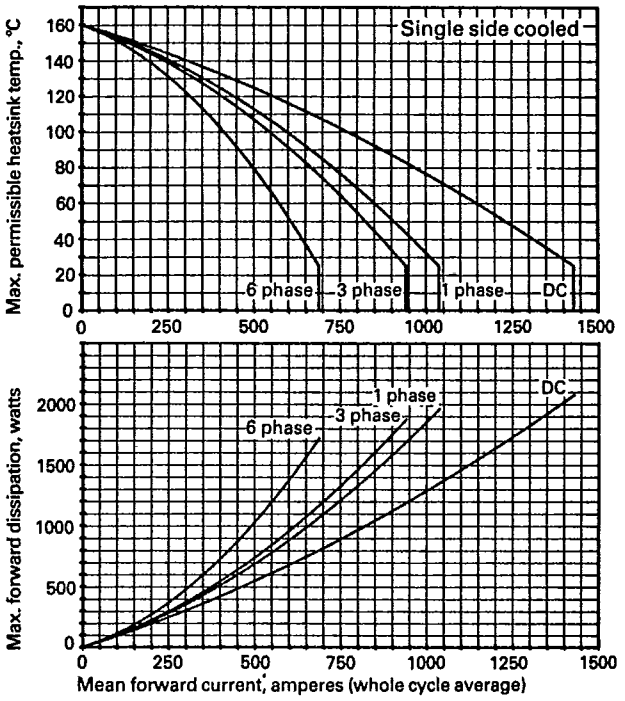


Figure 2 Dissipation/sink temperature v. mean forward current

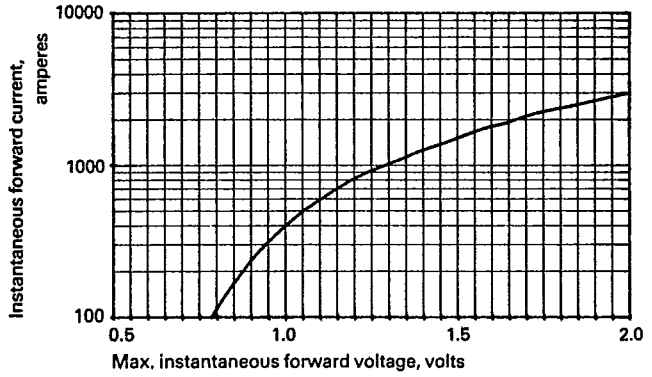


Figure 3 Forward voltage characteristic

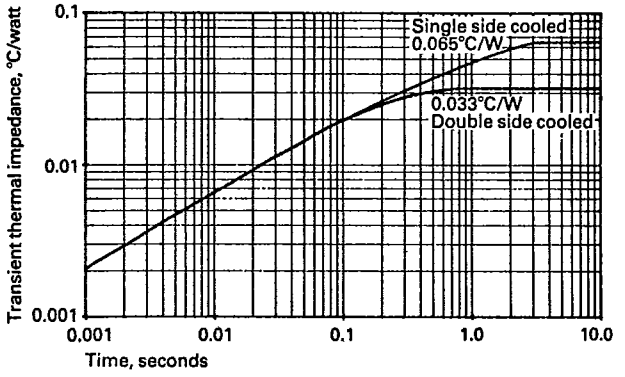


Figure 4 Transient thermal impedance, junction to heatsink

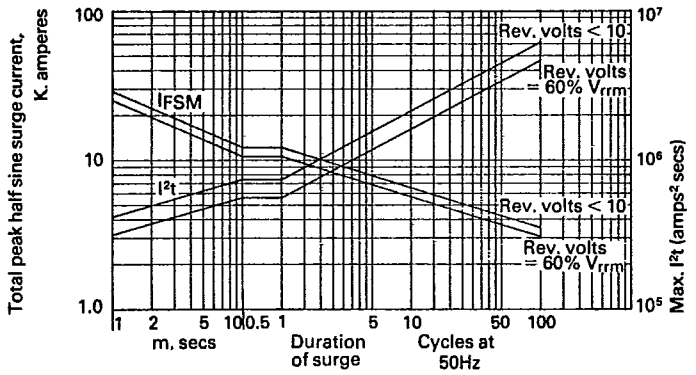
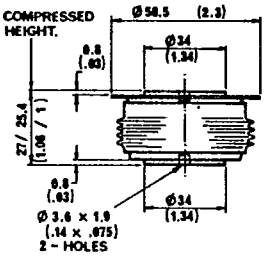


Figure 5 Max. non repetitive surge current at initial junction temperature 160°C



DO – 200 AB

Dimensions in mm (inches)

Mounting force: 1000 – 2000 Kg

Weight: 340 grams

WESTCODE SEMICONDUCTORS

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