

TECHNICAL
PUBLICATION**D K805**

ISSUE 1

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Flat-Base Silicon Rectifier Diodes Type KBN/KBR805

800amperes average: up to 2200volts V_{RRM}

RATINGS Maximum values at 175°C T_j unless stated otherwise

RATING	CONDITIONS	SYMBOL	
Average forward current	Half sine wave 100°C heatsink temperature	$I_{F(AV)}$	800A
RMS current		$I_{F(RMS)}$	1510A
DC forward current		I_F	1260A
Peak one-cycle surge (non repetitive)	10ms duration $\left\{ \begin{array}{l} 60\% V_{RRM} \text{ re-applied} \\ V_R \leq 10 \text{ volts} \end{array} \right.$	$I_{FSM(1)}$ $I_{FSM(2)}$	15400A 17700A
Maximum permissible surge energy	10ms duration $\left\{ \begin{array}{l} 60\% V_{RRM} \text{ re-applied} \\ V_R \leq 10 \text{ volts} \end{array} \right.$ 3ms duration $V_R \leq 10 \text{ volts}$	$I^2 t (1)$ $I^2 t (2)$	1180000A ² s 1560000A ² s 1160000A ² s
Heatsink operating temperature		T_{hs}	-30, +175°C
Storage temperature		T_{stg}	-40, +200°C

CHARACTERISTICS Maximum values at 175°C T_j unless stated otherwise

CHARACTERISTIC	CONDITIONS	SYMBOL	
Peak forward voltage drop	At 2510A, I_{FM}	V_{FM}	1.58V
Forward conduction threshold voltage		V_0	0.87V
Forward conduction slope resistance		r	0.28mΩ
Peak reverse current	At V_{RRM}	I_{RRM}	30mA
Thermal resistance junction to heatsink for a diode with a maximum forward volt-drop characteristic	DC and 180° sine wave 120° rectangular wave	$R_{th(j-hs)}$	0.065°C/W 0.072°C/W

VOLTAGE CODE →	02	04	06	08	10	12	14 _v	16	18	20	22
Repetitive voltage V_{RRM}	200	400	600	800	1000	1200	1400	1600	1800	2000	2200
Non-repetitive voltage V_{RSM}	300	500	700	900	1100	1300	1500	1700	1900	2100	2300

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

S	W	● ●	K	B	●	8	0	5
FIXED BASIC CODE	VOLTAGE CODE (see above)	FIXED OUTLINE CODE	BASE POLARITY N = cathode R = anode	FIXED TYPE CODE				

Typical code SW16KBR805 = 1600V_{RRM} diode with base anode*In the interest of product improvement, Westcode reserves the right to change specifications at any time without notice.*

DK805

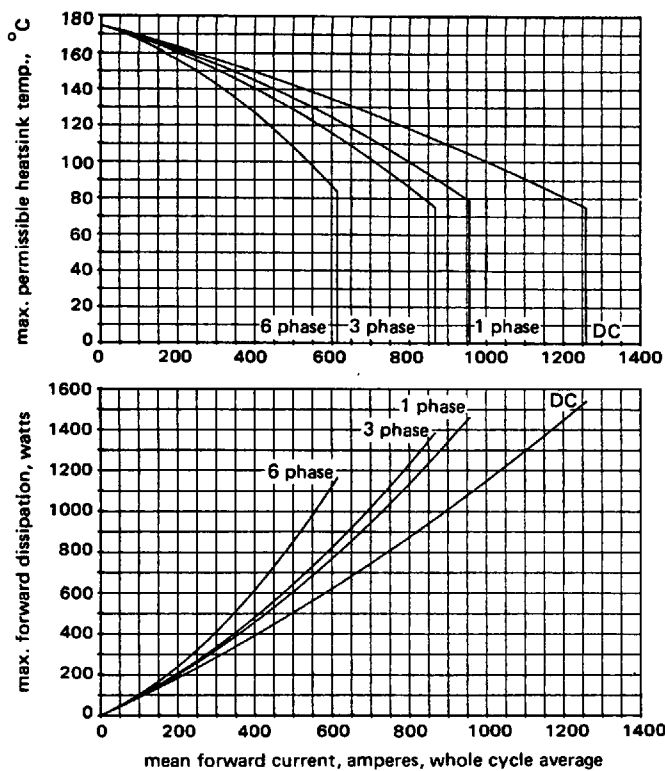


Figure 1 Dissipation and stud temperature
v. mean forward current

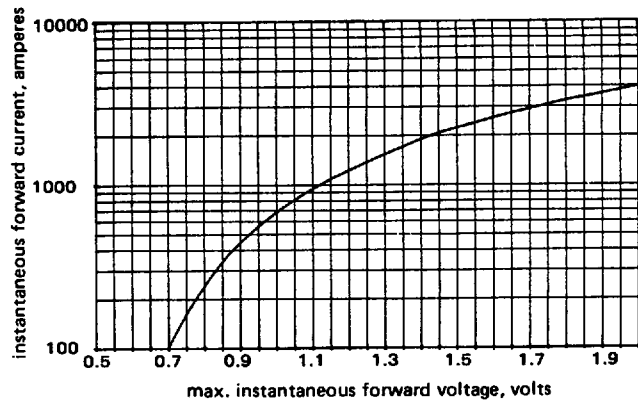


Figure 3 Forward voltage characteristic

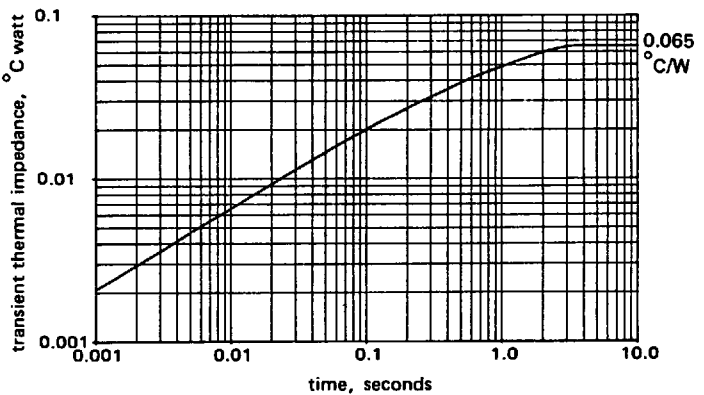


Figure 4 Transient thermal impedance junction
to heatsink

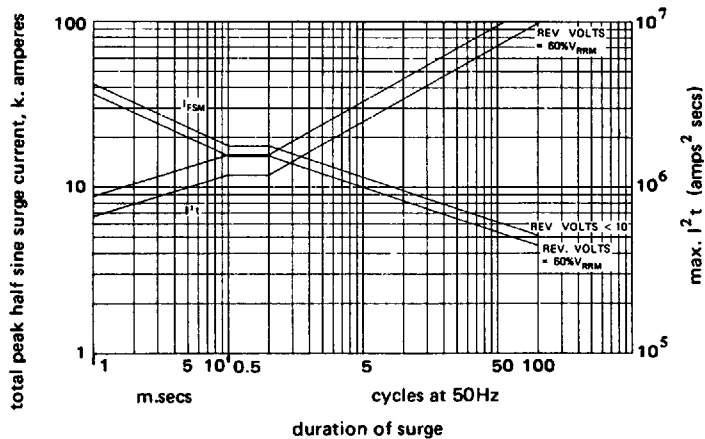
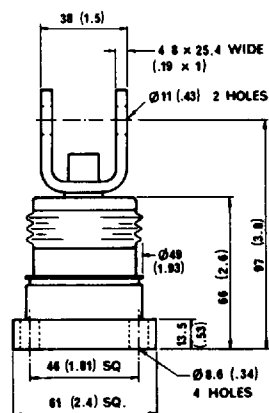


Figure 2 Max. non repetitive surge current
at initial junction temperature 175°C

max. $I^2 t$ (amps² secs)



Mounting Torque
1.66 – 2.07 KgM
threads not to be
lubricated

Weight: 936 grams

dimensions
in mm (inches)

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