

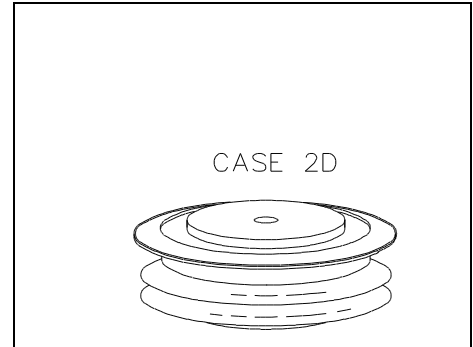
# YW0646WC120

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## GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER

### Features:

- . All Diffused Structure
- . High Surge rating
- . Soft Reverse Recovery
- . Rugged Ceramic Hermetic Package
- . Pressure Assembled Device



## ELECTRICAL CHARACTERISTICS AND RATINGS

### Reverse Blocking

Device Type	V <sub>RRM</sub> (1)	V <sub>RSM</sub> (1)
YW0646WC120	1200	1300

V<sub>RRM</sub> = Repetitive peak reverse voltage

V<sub>RSM</sub> = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage	I <sub>RRM</sub>	10 mA 30 mA (3)
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#### Notes:

All ratings are specified for T<sub>j</sub>=25 °C unless otherwise stated.

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to +185 °C.

(2) 10 msec. max. pulse width

(3) Maximum value for T<sub>j</sub> = 185 °C.

(4) See parameter definition below :

### Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average value of on-state current	I <sub>F(AV)</sub>		300		A	Sinewave, 180° conduction, T <sub>c</sub> = 115°C
RMS value of on-state current	I <sub>FRMS</sub>		470		A	Nominal value
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		2770 2600		A A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 185 °C 10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 185 °C
I square t	I <sup>2</sup> t		127500		A <sup>2</sup> s	8.3 msec and 10.0 msec
Peak on-state voltage	V <sub>FM</sub>		2.08		V	I <sub>FM</sub> = 1520 A;
Reverse Recovery Current (4)	I <sub>RM(REC)</sub>		100		A	I <sub>FM</sub> = 1000 A; dI <sub>F</sub> /dt = 10 A/μs; T <sub>imax</sub>
Reverse Recovery Charge (4)	Q <sub>rr</sub>		300		μC	I <sub>FM</sub> = 1000 A; dI <sub>F</sub> /dt = 10 A/μs; T <sub>imax</sub>
Reverse Recovery Time (4)	t <sub>RR</sub>		*		μs	

\* For guaranteed maximum values, contact factory

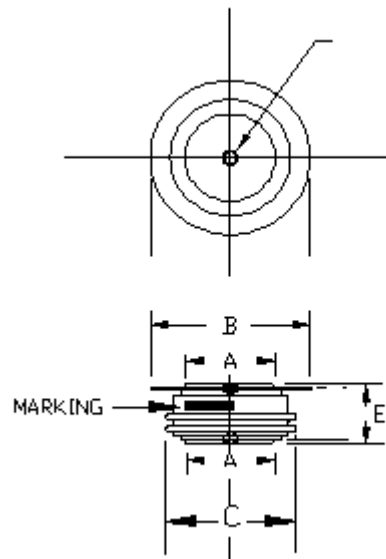
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## THERMAL AND MECHANICAL CHARACTERISTICS

### YW0646WC120 - Standard Rectifier

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	$T_j$	-40	+185		°C	
Storage temperature	$T_{stg}$	-40	+185		°C	
Thermal resistance - junction to case	$R_{\theta(j-c)}$	0.045 (1)	0.055 (2)		°C/W	Double sided cooled (1) @ 2000 lb.; (2) @ 800 lb.
Thermal resistance - junction to case	$R_{\theta(j-c)}$	0.090 (1)	0.110 (2)		°C/W	Single sided cooled (1) @ 2000 lb.; (2) @ 800 lb.
Thermal resistance - case to sink	$R_{\theta(c-s)}$		.030 .060		°C/W	Double sided cooled * Single sided cooled *
Mounting force	P	3.2	3.9		kN	
Weight	W				oz. g	

\* Mounting surfaces smooth, flat and greased



A:	19	mm
B:	41	mm
C:	36	mm
E:	14.5	mm