

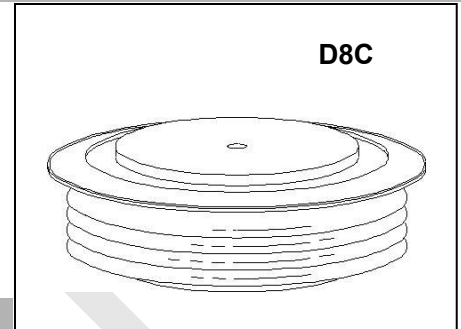


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## SOFT FAST RECOVERY DIODE

### Features:

- . All diffused structure
- . High surge rating
- . Blocking capability up to 2500 volts
- . 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)
YA796PE	1500	1700
YA796PN	1800	2000
YA796L	2000	2000
YA796LB	2200	2400
YA796LE	2500	2700

Notes:

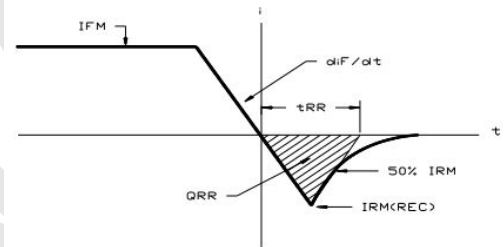
All ratings are specified for T<sub>j</sub>=25 °C, unless otherwise stated

- (1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to +125°C.
- (2) 10 msec. max. pulse width
- (3) Maximum value for T<sub>j</sub> = 125 °C.
- (4) See parameter definition below :

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

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

Repetitive peak reverse leakage current	I <sub>RRM</sub>	10 mA 75 mA (3)
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REVERSE RECOVERY CHARACTERISTIC

### Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	I <sub>F(AV)</sub>		925		A	Sinewave 180°, T <sub>c</sub> =70 °C
RMS forward current	I <sub>FRMS</sub>		1450		A	Nominal value
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		13800		A	10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 125 °C
I square t	I <sup>2</sup> t		9.5x10 <sup>5</sup>		A <sup>2</sup> s	8.3 msec and 10.0 msec
Peak forward voltage	V <sub>FM</sub>		1.75		V	I <sub>FM</sub> = 1000A; Duty cycle ≤0.01%; T <sub>j</sub> =25 °C
Reverse Recovery Current (4)	I <sub>RM(REC)</sub>		45		A	I <sub>FM</sub> = 1000 A; di <sub>F</sub> /dt = 10 A/μs; T <sub>jmax</sub>
Reverse Recovery Charge (4)	Q <sub>rr</sub>		*	200	μC	I <sub>FM</sub> = 1000 A; di <sub>F</sub> /dt = 25 A/s; T <sub>jmax</sub>
Reverse Recovery Time (4)	t <sub>rr</sub>		*		μs	

\* For guaranteed maximum values, contact factory

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	$T_j$	-40	+125		°C	
Storage temperature	$T_{stg}$	-40	+140		°C	
Thermal resistance - junction to case	$R_{\Theta(j-c)}$		0.023 0.046		°C/W	Double sided cooled Single sided cooled
Thermal resistance - case to heatsink	$R_{\Theta(c-s)}$		0.010 0.020		°C/W	Double sided cooled * Single sided cooled*
Mounting force	P			25	kN	
Weight	W			0.46	kg.	

\* Mounting surfaces smooth, flat and greaseless

**CASE OUTLINE AND DIMENSIONS**

