



# DPS SERIES 38MM

1000 – 1400 V<sub>RRM</sub>, 1000 A<sub>AVG</sub>  
Standard Recovery Diode

## FEATURE:

- All Diffused Structure
- High Surge rating
- Blocking capability up to 3000 volts
- Soft Reverse Recovery
- Rugged Ceramic Hermetic Package
- Pressure Assembled Device



## ELECTRICAL CHARACTERISTICS AND RATINGS

### Reverse Blocking

Device Type	V <sub>RRM</sub> <sup>(1)</sup>	V <sub>RSM</sub> <sup>(1)</sup>
D38P1000S1000	1000	1100
D38P1000S1200	1200	1300
D38P1000S1400	1400	1500

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

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

Repetitive peak reverse leakage	I <sub>RRM</sub>	20 mA 50 mA <sup>(3)</sup>
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### Notes:

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

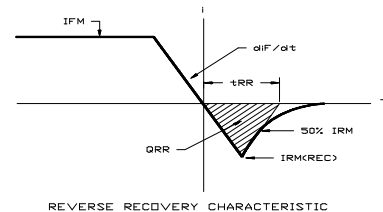
(1) All voltage ratings are specified for an applied

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>		1000		A	Sinewave, 180° conduction, T <sub>C</sub> =90°C
RMS value of on-state current	I <sub>FRMS</sub>		1600		A	Nominal value
Peak one cycle surge (non-repetitive) current	I <sub>FSM</sub>		12000		A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T <sub>J</sub> = 185°C
			11000		A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>J</sub> = 185°C
I square t	I <sup>2</sup> t		600000		A <sup>2</sup> s	8.3 msec and 10.0 msec
Peak on-state voltage	V <sub>FM</sub>		1.75		V	I <sub>FM</sub> = 3200 A; Duty cycle ≤ 0.01%
Reverse Recovery Current <sup>(4)</sup>	I <sub>RM(REC)</sub>		*		A	I <sub>FM</sub> = 1000 A; di <sub>F</sub> /dt = 10 A/μs
Reverse Recovery Charge <sup>(4)</sup>	Q <sub>rr</sub>		*		μC	
Reverse Recovery Time <sup>(4)</sup>	t <sub>RR</sub>		*		μs	

\* For guaranteed maximum values, contact factory



**THERMAL AND MECHANICAL CHARACTERISTICS**

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	$R_{\Theta(j-c)}$		0.040 0.080		°C/W	Double sided cooled Single sided cooled
Thermal resistance – Case to Sink	$R_{\Theta(c-s)}$		.015 .030		°C/W	Double sided cooled * Single sided cooled *
Mounting force	P	3500 15.5	4500 19.9		lb. kN	
Weight	W			9 225	oz. g	

**CASE OUTLINE AND DIMENSIONS**



STRIKE DISTANCE = 0.73 INCH  
 CREEPAGE DISTANCE = 1.17 INCH

