



# DPS SERIES 38MM

3500 – 4500  $V_{RRM}$ , 1000  $A_{AVG}$   
Standard Recovery Diode

## Features:

- All Diffused Structure
- High Surge rating
- Blocking capability up to 4500 volts
- Soft Reverse Recovery
- Rugged Ceramic Hermetic Package
- Pressure Assembled Device



## ELECTRICAL CHARACTERISTICS AND RATINGS

### Reverse Blocking

Device Type	$V_{RRM}^{(1)}$	$V_{RSM}^{(1)}$
D38P1000S33500	3500	3600
D38P1000S33600	3600	3700
D38P1000S33800	3800	3900
D38P1000S34000	4000	4100
D38P1000S34200	4200	4300
D38P1000S34400	4400	4500
D38P1000S34500	4500	4600

$V_{RRM}$  = Repetitive peak reverse voltage

$V_{RSM}$  = Non repetitive peak reverse voltage<sup>(2)</sup>

Repetitive peak reverse leakage	$I_{RRM}$	10 mA 50 mA (3)
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### Notes:

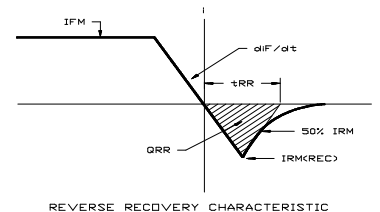
All ratings are specified for  $T_J = 25^\circ\text{C}$  unless otherwise stated.

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range  $-40$  to  $+170^\circ\text{C}$ .

(2) 10 msec. max. pulse width

(3) Maximum value for  $T_J = 170^\circ\text{C}$ .

(4) See parameter definition below :



REVERSE RECOVERY CHARACTERISTIC

### Conducting - On State

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average value of on-state current	$I_{F(AV)}$		1000		A	Sinewave, $180^\circ$ conduction, $T_c = 85^\circ\text{C}$
RMS value of on-state current	$I_{FRMS}$		1600		A	Nominal value
Peak one cycle surge (non-repetitive) current	$I_{FSM}$		11000		A	8.3 msec (60Hz), sinusoidal wave-shape, $180^\circ$ conduction, $T_J = 170^\circ\text{C}$
			10000		A	10.0 msec (50Hz), sinusoidal wave-shape, $180^\circ$ conduction, $T_J = 170^\circ\text{C}$
I square t	$I^2t$		500,000		$A^2s$	8.3 msec and 10.0 msec
Peak on-state voltage	$V_{FM}$		1.40		V	$I_{FM} = 1000$ A; $160^\circ\text{C}$
Reverse Recovery Current <sup>(4)</sup>	$I_{RM(REC)}$		*	195	A	$I_{FM} = 1000$ A; $dI_F/dt = 10$ A/ $\mu\text{s}$ ; $160^\circ\text{C}$
Reverse Recovery Charge <sup>(4)</sup>	$Q_{rr}$		*		$\mu\text{C}$	
Reverse Recovery Time <sup>(4)</sup>	$t_{RR}$		*		$\mu\text{s}$	

\* For guaranteed maximum values, contact factory



**THERMAL AND MECHANICAL CHARACTERISTICS**

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T <sub>J</sub>	-40	+170		°C	
Storage temperature	T <sub>STG</sub>	-40	+170		°C	
Thermal resistance – Junction to Case	R <sub>θ(J-C)</sub>		0.040 0.080		°C/W	Double sided cooled Single sided cooled
Thermal resistance – Case to Sink	R <sub>θ(C-S)</sub>		.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	

\* Mounting surfaces smooth, flat and greased

**CASE OUTLINE AND DIMENSIONS**



STRIKE DISTANCE = 0.73 INCH  
CREEPAGE DISTANCE = 1.17 INCH

