



DPS SERIES – 38MM

1000A, 3500 to 4500V
Standard Recovery Diode



Features

- All Diffused Structure
- High Surge Rating
- Blocking Capability up to 4500V
- Soft Reverse Recovery
- Rugged Ceramic Hermetic Package
- Pressure Assembled Device

Electrical Characteristics and Ratings

Part Number	Value		Units
Reverse Blocking			
	Repetitive Peak Reverse Voltage¹ V_{RRM}	Non-Repetitive Peak Reverse Voltage^{1,2} V_{RSM}	
D38P1000S33500	3500	3600	V
D38P1000S33600	3600	3700	V
D38P1000S33800	3800	3900	V
D38P1000S34000	4000	4100	V
D38P1000S34200	4200	4300	V
D38P1000S34400	4400	4500	V
D38P1000S34500	4500	4600	V

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 +160°C.

² 10ms maximum pulse width

³ Maximum value for $T_J = 160^\circ\text{C}$.

	Symbol	Value		Units
Repetitive Peak Reverse Leakage	I_{RRM}	10	50 ³	mA

Parameter	Symbol	Conditions	Value	Units
Conducting – On State				
Average Value of On-State Current	$I_{F(AV)}$	Sinewave, 180° Conduction, $T_C = 100^\circ\text{C}$	1000	A
RMS Value of On-State Current	I_{FRMS}	Nominal Wave	2400	A
Peak One Cycle Surge (Non-Repetitive) Current	I_{FSM}	8.3ms (60Hz), Sinusoidal Waveshape, 180° Conduction, $T_J = 160^\circ\text{C}$	11000	A
Peak One Cycle Surge (Non-Repetitive) Current	I_{FSM}	10.0ms (50Hz), Sinusoidal Waveshape, 180° Conduction, $T_J = 170^\circ\text{C}$	10000	A
Maximum I^2t for Fusing	I^2t	8.3ms and 10.0ms	500000	A ² s
Peak On-State Voltage	V_{FM}	$I_{FM} = 1500\text{A}$; $T_J = 25^\circ\text{C}$	2.2	V
Threshold Voltage	V_{FO}	$T_J = T_J \text{ Max}$	0.95	V
Slope Resistance	r_f	$T_J = T_J \text{ Max}$	0.735	mΩ
Reverse Recovery Current	$I_{RM(REC)}$	$I_{FM} = 1000\text{A}$; $di_f/dt = 10\text{A}/\mu\text{s}$; $T_J = 160^\circ\text{C}$	*	A
Reverse Recovery Charge	Q_{rr}	-	*	μC
Reverse Recovery Time	T_{RR}	-	*	μs

*For guaranteed maximum values, contact the factory.

Thermal and Mechanical Characteristics

Parameter	Symbol	Conditions	Value	Units
Thermal Resistance - Junction to Case	$R_{\theta(j-c)}$	Double Sided Cooled	0.023	°C/W
Thermal Resistance - Junction to Case	$R_{\theta(j-c)}$	Single Sided Cooled	0.046	°C/W
Thermal Resistance - Case to Sink	$R_{\theta(c-s)}$	Double Sided Cooled*	0.010	°C/W
Thermal Resistance - Case to Sink	$R_{\theta(c-s)}$	Single Sided Cooled*	0.020	°C/W
Mounting Force	P	-	3500 to 4500 (15.5 to 19.9)	lb (kN)
Weight	W	-	9 (225)	oz (g)
Operating Temperature	T_J	-	-40 to 175	°C
Storage Temperature	T_{STG}	-	-40 to 175	°C

*Mounting surfaces smooth, flat, and greased.

Drawings and Curves

