



# DPS SERIES 30MM

500 – 1500 V<sub>RRM</sub>, 1200 A<sub>AVG</sub>  
Standard Recovery Diode

## Features:

- All Diffused Structure
- High Surge rating
- Blocking capability up to 1500 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>
D30P1200S500	500	600
D30P1200S600	600	720
D30P1200S800	800	960
D30P1200S1000	1000	1150
D30P1200S1200	1200	1300
D30P1200S1400	1400	1400
D30P1200S1500	1500	1600

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>	15 mA 40 mA <sup>(3)</sup>
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### Notes:

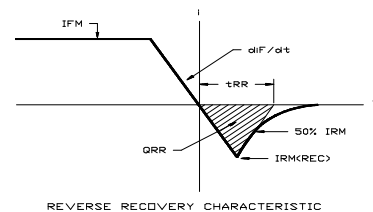
All ratings are specified for T<sub>J</sub> = 25°C unless otherwise stated.

(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>		1200		A	Sinewave, 180° conduction, T <sub>C</sub> = 115°C
RMS value of on-state current	I <sub>FRMS</sub>		1880		A	Nominal value
Peak one cycle surge (non-repetitive) current	I <sub>FSM</sub>		11100		A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T <sub>J</sub> = 185°C
			10500		A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>J</sub> = 185°C
I square t	I <sup>2</sup> t		510000		A <sup>2</sup> s	8.3 msec and 10.0 msec
Peak on-state voltage	V <sub>FM</sub>		1.65		V	I <sub>FM</sub> = 3800 A; Duty cycle ≤ 0.01%
Reverse Recovery Current <sup>(4)</sup>	I <sub>RM(REC)</sub>		100		A	I <sub>FM</sub> = 1000 A; di <sub>F</sub> /dt = 10 A/μs; T <sub>JMAX</sub>



Reverse Recovery Charge <sup>(4)</sup>	$Q_{rr}$		900		$\mu\text{C}$	$I_{FM} = 1000 \text{ A}; di_F/dt = 10 \text{ A}/\mu\text{s}; T_{JMAX}$
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	$T_J$	-40	+185		$^{\circ}\text{C}$	
Storage temperature	$T_{STG}$	-40	+185		$^{\circ}\text{C}$	
Thermal Resistance – Junction to Case	$R_{\theta(j-c)}$	0.045 (1)	0.055 (2)		$^{\circ}\text{C}/\text{W}$	Double sided cooled (1) @ 2000 lb.; (2) @ 800 lb.
Thermal Resistance – Junction to Case	$R_{\theta(j-c)}$	0.090 (1)	0.110 (2)		$^{\circ}\text{C}/\text{W}$	Single sided cooled (1) @ 2000 lb.; (2) @ 800 lb.
Thermal resistance – Case to Sink	$R_{\theta(c-s)}$		.030 .060		$^{\circ}\text{C}/\text{W}$	Double sided cooled * Single sided cooled *
Mounting force	P	800 3.6	2500 11.2		lb. kN	
Weight	W			2.5 70	oz. g	

\* Mounting surfaces smooth, flat and greased

**CASE OUTLINE AND DIMENSIONS**



STRIKE DISTANCE = 0.38 INCH  
CREEPAGE DISTANCE = 0.58 INCH

