



DPS SERIES 77MM

3800 – 4500 V_{RRM}, 2900 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⁾
D77P2900S3800	3800	3900
D77P2900S3900	3900	4000
D77P2900S4000	4000	4100
D77P2900S4200	4200	4300
D77P2900S4400	4400	4500
D77P2900S4500	4500	4600

V_{RRM} = Repetitive peak reverse voltage

V_{RSM} = Non repetitive peak reverse voltage⁽²⁾

Repetitive peak reverse leakage	I _{RRM}	15 mA 100 mA ⁽³⁾
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Notes:

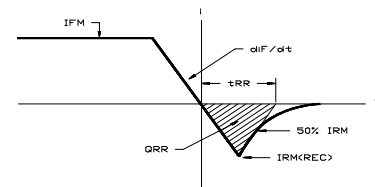
All ratings are specified for T_J=25°C unless otherwise stated.

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range 0 to +170°C.

(2) 10 msec. max. pulse width

(3) Maximum value for T_J = 170°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)}		2900		A	Sinewave, 180° conduction, T _C = -100°C
RMS value of on-state current	I _{F(RMS)}		4550		A	Nominal value
Peak one cycle surge (non-repetitive) current	I _{FSM}		40000		A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T _J = 160°C
			36000		A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T _J = 160°C
I square t	I ² t		6.6x10 ⁶		A ² s	8.3 msec and 10 msec
Peak on-state voltage	V _{FM}		1.15		V	I _{FM} = 2000 A; Duty cycle ≤ 0.01%; T _J = 160°C
Reverse Recovery Current ⁽⁴⁾	I _{RM(REC)}		360		A	I _{FM} = 1000 A; diF/dt = 10 A/μs, T _J = 160°C
Reverse Recovery Charge ⁽⁴⁾	Q _{rr}		*		μC	
Reverse Recovery Time ⁽⁴⁾	t _{RR}		*		μs	

* For guaranteed maximum values contact factory



THERMAL AND MECHANICAL CHARACTERISTICS

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T _J	-40	+170		°C	
Storage temperature	T _{STG}	-40	+170		°C	
Thermal resistance – Junction to Case	R _{Θ(J-C)}		0.012 0.024		°C/W	Double sided cooled Single sided cooled
Thermal resistance – Case to Sink	R _{Θ(C-S)}		0.002 0.004		°C/W	Double sided cooled * Single sided cooled *
Mounting force	P	7000 31.1	9000 40.0		lb. kN	
Weight	W			3.5 1.6	lbs Kg	

* Mounting surfaces smooth, flat and greased

CASE OUTLINE AND DIMENSIONS



STRIKE DISTANCE = 1.04 INCH
CREEPAGE DISTANCE = 1.64 INCH

