

FAST RECOVERY RECTIFIER DIODES

- FAST RECOVERY TIME
- LOW FORWARD RECOVERY TIME
- AVAILABLE UP TO 600V

APPLICATIONS

- DC AND AC MOTOR CONTROL
- SWITCHMODE POWER SUPPLY
- HIGH FREQUENCY CHOPPERS
- HIGH FREQUENCY RECTIFIERS



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
I_{FRM}	Repetitive Peak Forward Current	$t_p \leq 20\mu s$	130	A
$I_{F(AV)}$	Average Forward Current	$T_C = 100^\circ C$	12	A
I_{FSM}	Surge non Repetitive Forward Current	$t_p = 10ms$ Sinusoidal	150	A
P_{Tot}	Power Dissipation	$T_C = 100^\circ C$	20	W
T_{stg} T_J	Storage and Junction Temperature Range		- 65 to 150	$^\circ C$

Symbol	Parameter	1N					BYX 62-600	Unit
		3889	3890	3891	3892	3893		
V_{RRM}	Repetitive Peak Reverse Voltage	50	100	200	300	400	600	V

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction-case	2.5	$^\circ C/W$

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I _R	T _j = 25°C	V _R = V _{RRM}			25	μA
	T _j = 100°C				3	mA
V _F	T _j = 25°C	I _F = 12A			1.4	V

RECOVERY CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t _{rr}	T _j = 25°C V _R = 30V	I _F = 1A	di _F /dt = - 15A/μs			200	ns
Q _{rr}	T _j = 25°C V _R = 30V	I _F = 1A	di _F /dt = - 15A/μs			0.2	μC
I _{RM}	T _j = 25°C V _R = 30V	I _F = 1A	di _F /dt = - 15A/μs			2	A

To evaluate the conduction losses use the following equations :

$$V_F = 1.2 + 0.012 I_F \quad P = 1.2 \times I_{F(AV)} + 0.012 I_F^2 (RMS)$$