Technical Data :

ELECTRO POWER
S M 8 0 4 0 2 3 - Fast Recovery Rectifier

4500 V_{RRM};

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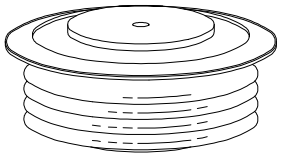
GENERAL PURPOSE HIGH POWER FAST RECOVERY RECTIFIER

Features:



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

ELECTRICAL CHARACTERISTICS AND RATINGS

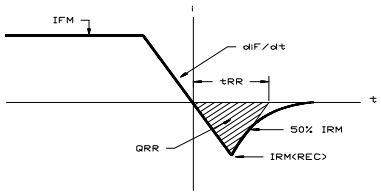
Reverse Blocking

Device Type	V_{RRM} (1)	V_{RSM} (1)
804023	4500	4600

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

Notes:
All ratings are specified for Tj=25 °C unless otherwise stated.
(1) All voltage ratings are specified for an applied 50Hz/60zHz sinusoidal waveform over the temperature range -40 to +125 °C.
(2) 10 msec. max. pulse width
(3) Maximum value for Tj = 125 °C.
(4) See parameter definition below :

Repetitive peak reverse leakage	I_{RRM}	150 mA (3)



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average value of on-state current	$I_{F(AV)}$		2322		A	Sinewave,180° conduction,T_H =55°C
Peak one cycle surge (non repetitive) current	I_{FSM}		23000		A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T_j = 125 °C
I square t	I^2t		2640000		A^2s	10.0 msec
Peak on-state voltage	V_{FM}		2.05		V	I_{FM} =2000 A; Duty cycle ≤ 0.01% T_j = 25 °C
Reverse Recovery Current (4)	$I_{RM(REC)}$				A	I_{FM} = 1000 A; dI/dt =150A/µs;V_R=50V T_j = 125°C
Reverse Recovery Charge (4)	Q_{rr}		3100*		µC	I_{FM} = 1000 A; dI/dt =150A/µs;V_R=50V T_j = 125 °C
Reverse Recovery Time (4)	t_{RR}		6.5*		µs	I_{FM} = 1000 A; dI/dt =150A/µs;V_R=50V T_j = 125 °C

* For guaranteed maximum values, contact factory

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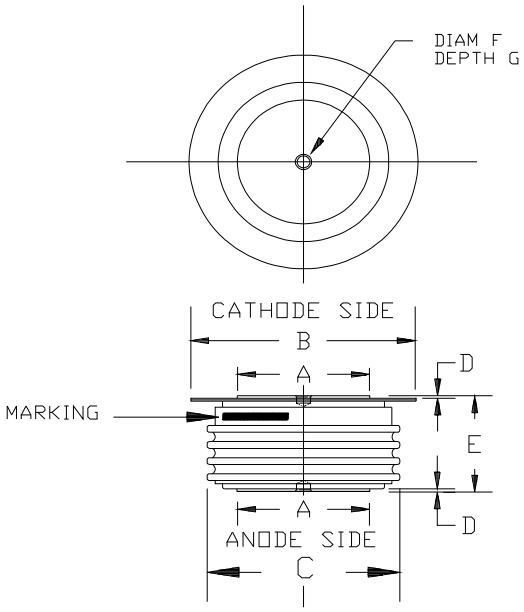
THERMAL AND MECHANICAL CHARACTERISTICS 804023 - Fast Recovery Rectifier

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+125		°C	
Storage temperature	T_{stg}	-40	+125		°C	
Thermal resistance - junction to case	$R_{\Theta (j-c)}$		0.012 0.024		°C/W	Double sided cooled Single sided cooled
Thermal resistance - case to sink	$R_{\Theta (c-s)}$		.002 .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



Sym	A	B	C	E
Inches	1.37	4.40	3.85	1.37
mm	73	112	98	35±1.0