SM*CXC924- Fast Recovery Rectifier

Rectifier

1500 - 2400 V_{RRM}; 1265 A avg

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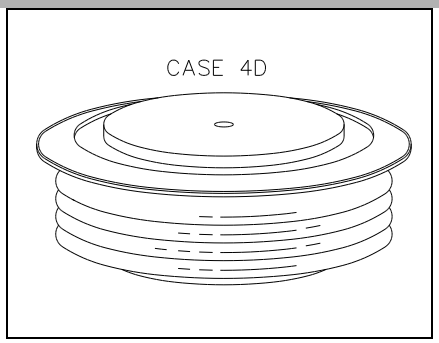
HIGH POWER FAST RECOVERY RECTIFIER

Features:

- **All Diffused Structure**
- **Fast Switching Performance**
- **Blocking capabilty up to 2400 volts**
- **Soft Reverse Recovery**
- **Rugged Ceramic Hermetic Package**
- **Pressure Assembled Device**



ELECTRICAL CHARACTERISTICS AND RATINGS

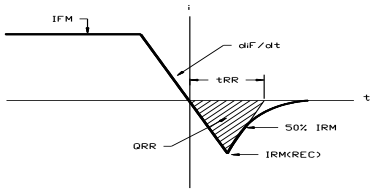
Reverse Blocking

Device Type	V_{RRM} (1)	V_{RSM} (1)
SM15CXC	1500	1600
SM16CXC	1600	1700
SM18CXC	1800	1900
SM20CXC	2000	2100
SM22CXC	2200	2300
SM24CXC	2400	2500

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

Repetitive peak reverse leakage	I_{RRM}	10 mA 75 mA (3)

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 +150 °C.
(2) 10 msec. max. pulse width
(3) Maximum value for Tj = 150 °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	$I_{F(AV)}$		1265		A	Sinewave,180° conduction,T_c =55°C
RMS value of on-state current	I_{FRMS}		1450		A	Nominal value
Peak one cycle surge (non repetitive) current	I_{FSM}		18000 16000		A A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T_j = 150 °C 10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T_j = 150 °C
I square t	I^2t		$1.3x10^6$		A^2s	8.3 msec and 10 msec
Peak on-state voltage	V_{FM}		2.65		V	I_{FM} = 2900 A; Duty cycle ≤ 0.01%; Tjmax
Reverse Recovery Current (4)	$I_{RM(REC)}$		45		A	I_{FM} = 1000 A; dI_F/dt = 10 A/µs; Tjmax
Reverse Recovery Charge (4)	Q_{rr}		200		µC	I_{FM} = 1000 A; dI_F/dt = 10 A/µs; Tjmax
Reverse Recovery Time (4)	t_{RR}		*		µs	

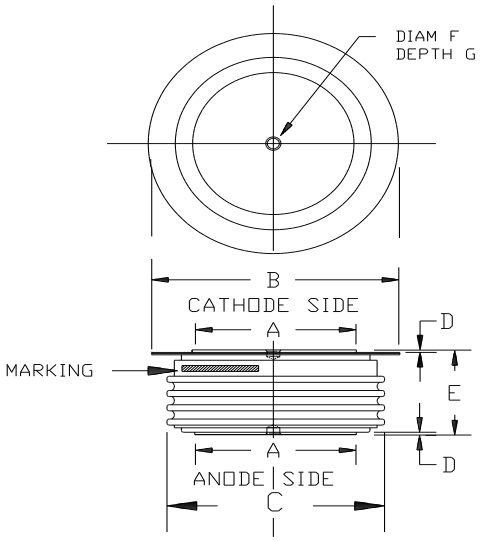
* For guaranteed maximum values, contact factory

THERMAL AND MECHANICAL CHARACTERISTICS SM*CXC924 - Fast Recovery Rectifier

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+150		°C	
Storage temperature	T_{stg}	-40	+150		°C	
Thermal resistance - junction to case	$R_{\theta (j-c)}$		0.023 0.046		°C/W	Double sided cooled Single sided cooled
Thermal resistance - case to sink	$R_{\theta (c-s)}$		.010 .020		°C/W	Double sided cooled * Single sided cooled *
Mounting force	P	5000 22.3	6000 26.7		lb. kN	
Weight	W			16 460	oz. g	

* Mounting surfaces smooth, flat and greased

CASE OUTLINE AND DIMENSIONS



OUTLINE DIMENSIONS - CASE 4D

DIMENSIONS	Min. mm	Max. mm	Min. In.	Max. In.
DIAM A	43.18	48.26	1.70	1.90
DIAM B	63.50	75.18	2.50	2.96
DIAM C	--	67.31	--	2.65
D	0.76	--	0.03	--
E	25.40	27.18	1.00	1.07
F	3.30	3.81	0.13	0.15
G	1.78	2.03	0.07	0.08

STRIKE DISTANCE = .73 INCH / 18.5 MM MIN.
CREEPAGE DISTANCE = 1.17 INCH / 29.7 MM MIN.