

P S T

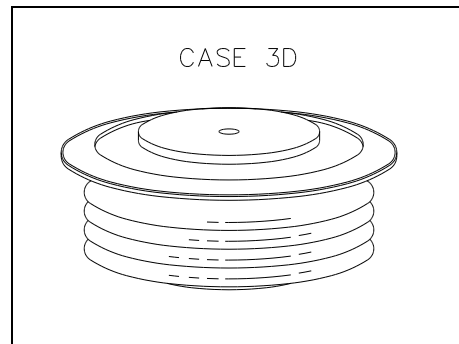
SMCXC224 - Fast Recovery Rectifier**

1500 - 2000 V_{RRM}; 875 A avg

HIGH POWER FAST RECOVERY RECTIFIER

Features:

- . All Diffused Structure
- . Fast Switching Performance
- . Blocking capability up to 2000 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)
SM15 CXC224	1500	1600
SM16 CXC224	1600	1700
SM17 CXC224	1700	1800
SM18 CXC224	1800	1900
SM19 CXC224	1900	2000
SM20 CXC224	2000	2100

V_{RRM} = Repetitive peak reverse voltage

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

Repetitive peak reverse leakage	I _{RRM}	20 mA 50 mA (3)
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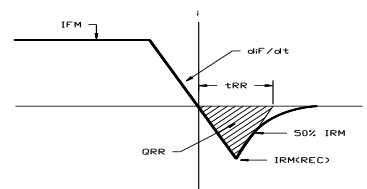
Notes:

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 -40 to +125 °C.

(2) 10 msec. max. pulse width

(3) Maximum value for T_j = 125 °C.



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

Parameter	Symbol	Min.	Max.	Typ	Units	Conditions
Average value of on-state current	I _{F(AV)}		875		A	Sinewave, 180° conduction, T _c = 78 °C
RMS value of on-state current	I _{FRMS}		1760		A	Nominal value
Peak one cycle surge (non repetitive) current	I _{FSM}		10000		A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T _j = 125 °C
I square t	I ² t		605000		A ² s	10.0 msec
Peak on-state voltage	V _{FM}		1.60		V	I _{FM} = 1200 A; Duty cycle ≤ 0.01%; T _j max
Reverse Recovery Current (4)	I _{RM(REC)}		80		A	I _{FM} = 1000 A; dI _F /dt = 25 A/μs; T _j max
Reverse Recovery Charge (4)	Q _{rr}		*	200	μC	I _{FM} = 1000 A; dI _F /dt = 25 A/μs; T _j max
Reverse Recovery Time (4)	t _{RR}		*		μs	

* For guaranteed maximum values, contact factory

THERMAL AND MECHANICAL CHARACTERISTICS SM**CXC224- Fast Recovery Rectifier

Parameter	Symb ol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+125		°C	
Storage temperature	T_{stg}	-40	+125		°C	
Thermal resistance - junction to case	$R_{\theta(j-c)}$		0.043 0.086		°C/W	Double sided cooled Single sided cooled
Thermal resistance - case to sink	$R_{\theta(c-s)}$.015 .030		°C/W	Double sided cooled * Single sided cooled *
Mounting force	P	3500 15.5	4500 19.9		lb. kN	
Weight	W			9 225	oz. g	

* Mounting surfaces smooth, flat and greased

CASE OUTLINE AND DIMENSIONS

