CMR2-02 CMR2-06
CMR2-04 CMR2-10

SURFACE MOUNT SILICON GENERAL PURPOSE RECTIFIERS 2.0 AMP, 200 THRU 1000 VOLT



SMB CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMR2-02 series 2.0 Amp surface mount silicon rectifier is a highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications.

MARKING CODE: SEE MARKING CODE TABLE ON FOLLOWING PAGE

FEATURES:

- Special selections available
- High reliability
- Glass passivated chip
- "C" bend construction provides strain relief when mounted on pc board

MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL	CMR2-02	CMR2-04	CMR2-06	CMR2-10	UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	200	400	600	1000	V
DC Blocking Voltage	V_R	200	400	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	700	V
Average Forward Current (T_A=50°C)	I_O			2.0		A
Peak Forward Surge Current, tp=8.3ms	I_{FSM}			60		A
Operating and Storage Junction Temperature	T_J, T_{stg}			-65 to +150		°C
Thermal Resistance	Θ_{JL}			20		°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

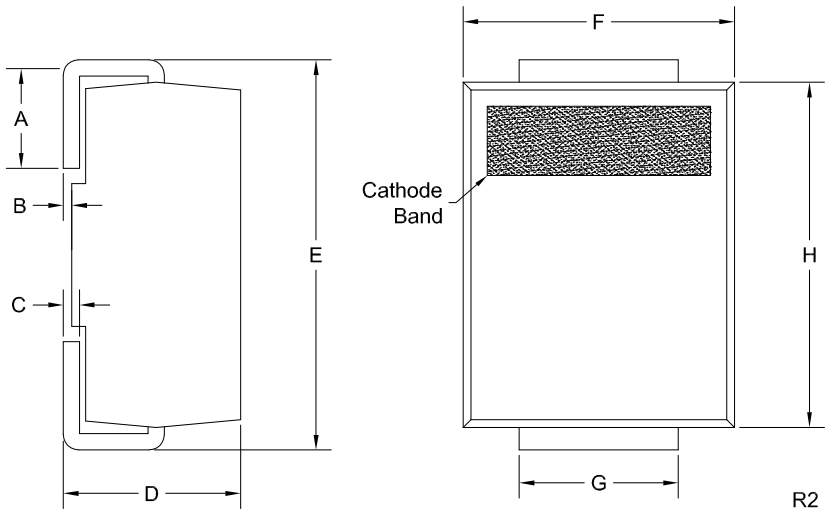
SYMBOL	TEST CONDITIONS	TYP	MAX	UNITS
I_R	V_R=Rated V_{RRM}		5.0	μA
I_R	V_R=Rated V_{RRM}, T_A=125°C		125	μA
V_F	I_F=2.0A		1.1	V
t_{rr}	I_F=0.5A, I_R=1.0A, I_{rr}=0.25A		2.5	μs
C_J	V_R=4.0V, f=1.0MHz	30		pF

R4 (4-September 2018)

CMR2-02 CMR2-06
CMR2-04 CMR2-10

SURFACE MOUNT SILICON
GENERAL PURPOSE RECTIFIERS
2.0 AMP, 200 THRU 1000 VOLT

SMB CASE - MECHANICAL OUTLINE



DEVICE	MARKING CODE
CMR2-02	C202
CMR2-04	C204
CMR2-06	C206
CMR2-10	C210

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.000	0.008	0.00	0.20
C	0.006	0.012	0.15	0.30
D	0.086	0.096	2.18	2.44
E	0.200	0.220	5.08	5.59
F	0.130	0.150	3.30	3.81
G	0.077	0.083	1.96	2.11
H	0.160	0.191	4.06	4.85

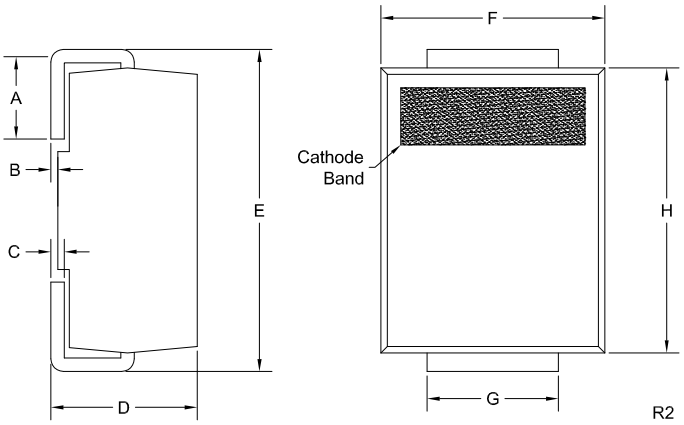
SMB (REV: R2)

Package Details
SMB Case



Central Semiconductor Corp.

Mechanical Drawing



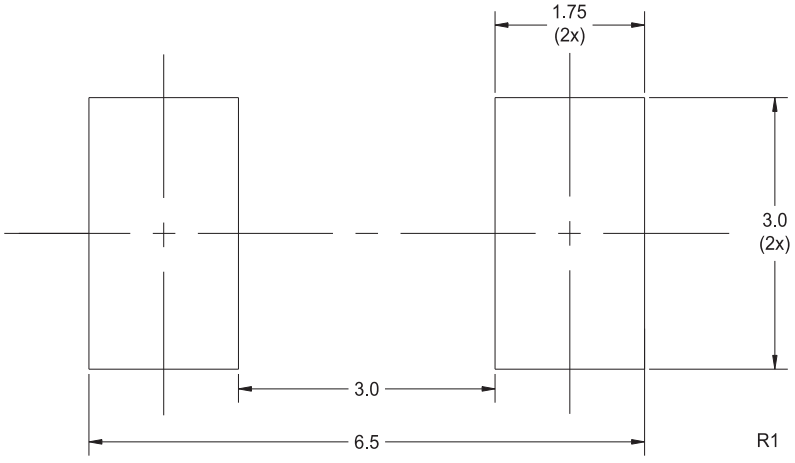
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SMB (REV: R2)

Lead Code:
Reference individual device datasheet.

Part Marking: 3-6 Character Alpha/Numeric Code

Mounting Pad Geometry (Dimensions in mm)

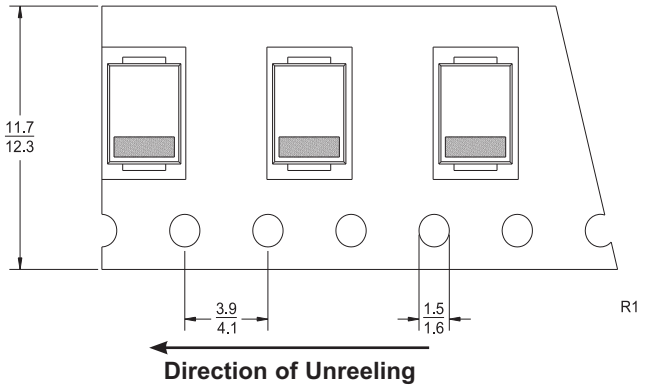


R3 (4-September 2018)

Package Details
SMB Case

Tape Dimensions and Orientation (Dimensions in mm)

Tape Width: 12mm



Devices are taped in accordance with Electronic Industries Association Standard EIA-481-D

Packaging Base

13” Reel = 3,000 pcs.

Reel Labeling Information

Each reel is labeled with the following information:
Central Part Number, Customer Part Number, Purchase Order Number, Quantity, Lot Number, Date Code and Ship Date.

Reel Packing Information

Reel Size	Reels per Box (Maximum)	Parts per Box (Maximum)	Box Dimensions		Shipping Weight (Max.)	
			INCH	CM	LB	KG
13”	5	15,000	15x4x15	38x10x38	8	4
	14	42,000	15x15x9	38x38x23	21	10
	26	78,000	15x15x18	38x38x46	39	18

Ordering Information

- For devices taped and reeled on 13” reels, add TR13 suffix to part number.
- All SMDs are available in small quantities for prototype and manual placement applications.

Material Composition Specification

SMB Case



Device average mass . . . . . **92 mg**

Fluctuation margin . . . . . **+/-10%**

Component	Material	Material		Substance	CAS No.	Substance		
		(%wt)	(mg)			(%wt)	(mg)	(ppm)
active device	doped Si	0.83%	0.76	Si	7440-21-3	0.83%	0.76	8,262
leadframe	copper	37%	34.04	Cu	7440-50-8	37%	34.04	370,032
die attach	high temperature solder paste	2.45%	2.25	Pb	7439-92-1	2.26%	2.081	22,622
				Sn	7440-31-5	0.12%	0.113	1,228
				Ag	7440-22-4	0.06%	0.056	609
encapsulation*	EMC	58.96%	54.23	silica	7631-86-9	40.09%	36.88	400,904
				epoxy resin	29690-82-2	11.79%	10.85	117,945
				phenol resin	9003-35-4	5.89%	5.42	58,918
				Sb_2O_3	1309-64-4	0.59%	0.542	5,892
				Br	7726-95-6	0.59%	0.542	5,892
	EMC GREEN	58.96%	54.23	silica (fused)	60676-86-0	45.4%	41.76	453,953
				epoxy resin	29690-82-2	5.9%	5.423	58,951
				phenol resin	9003-35-4	5.72%	5.26	57,179
				carbon black	1333-86-4	0.18%	0.163	1,772
				metal hydroxide	1309-42-8	1.77%	1.628	17,697
plating**	tin/lead process	0.77%	0.71	Sn	7440-31-5	0.62%	0.566	6,153
				Pb	7439-92-1	0.15%	0.142	1,544
	matte tin	0.77%	0.71	Sn	7440-31-5	0.77%	0.708	7,696

*EMC GREEN molding compound is Halogen-Free.

**For Lead Free plating, add suffix “PB FREE” to part number.
For Tin/Lead plating, add suffix “TIN/LEAD” to part number.
No suffix designation allows for the supply of either lead-free or tin/lead plated product depending on availability.

Disclaimer

The information provided in this Material Composition data sheet is, to the best of our knowledge, correct. However, there is no guarantee to completeness or accuracy, as some information is derived from data sources outside the company.

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