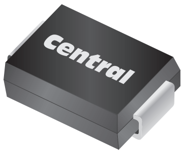
CMR1U-01 CMR1U-06
CMR1U-02 CMR1U-08
CMR1U-04 CMR1U-10

SURFACE MOUNT SILICON ULTRA FAST RECOVERY RECTIFIERS
1.0 AMP, 100 THRU 1000 VOLT



SMB CASE

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMR1U-01 series 1 Amp silicon Ultra Fast Recovery 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=25ºC unless otherwise noted)

				CMR1U				
	SYMBOL	**-01**	**-02**	**-04**	**-06**	**-08**	**-10**	**UNITS**
Peak Repetitive Reverse Voltage	V_{RRM}	100	200	400	600	800	1000	V
DC Blocking Voltage	V_R	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	140	280	420	560	700	V
Average Forward Current (T_A=75ºC)	I_O			1.0				A
Peak Forward Surge Current, tp=8.3ms	I_{FSM}			30				A
Operating and Storage Junction Temperature	T_J, T_{stg}			-65 to +175				ºC
Thermal Resistance	Θ_{JL}			20				ºC/W

ELECTRICAL CHARACTERISTICS: (T_A=25ºC) unless otherwise noted)

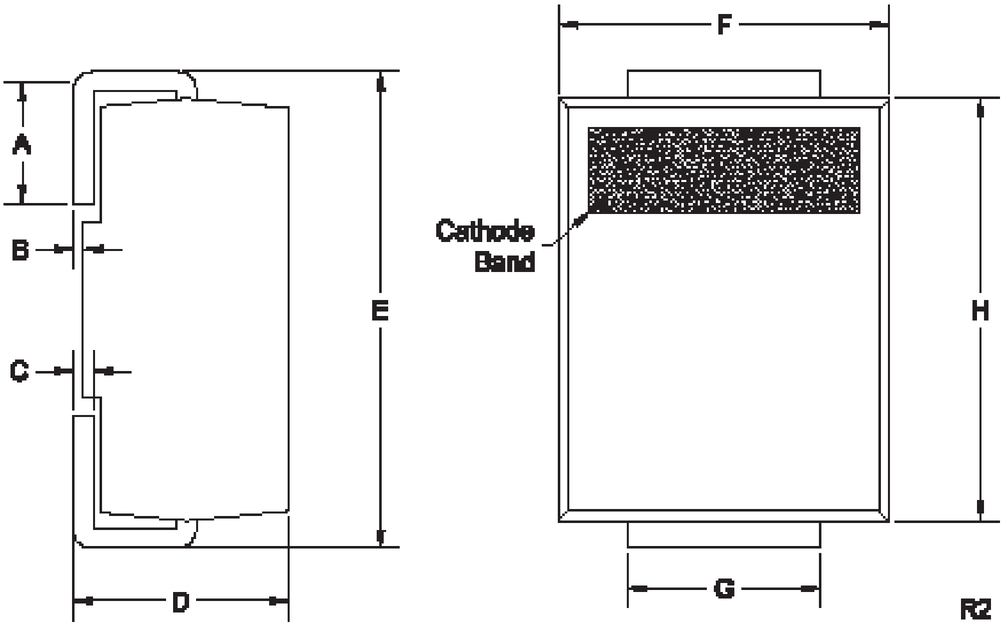
SYMBOL	TEST CONDITIONS	MAX	UNITS
I_R	V_R=Rated V_{RRM}	5.0	μA
I_R	V_R=Rated V_{RRM}, T_A=125ºC	100	μA
V_F	I_F=1.0A, (CMR1U-01, CMR1U-02)	1.0	V
V_F	I_F=1.0A, (CMR1U-04)	1.25	V
V_F	I_F=1.0A, (CMR1U-06)	1.60	V
V_F	I_F=1.0A, (CMR1U-08, CMR1U-10)	1.70	V
t_{rr}	I_F=0.5A, I_R=1.0A, I_{rr}=0.25A (CMR1U-01, -02, -04)	50	ns
t_{rr}	I_F=0.5A, I_R=1.0A, I_{rr}=0.25A (CMR1U-06, -08, -10)	100	ns

R7 (15-August 2025)

CMR1U-01 CMR1U-06
CMR1U-02 CMR1U-08
CMR1U-04 CMR1U-10

SURFACE MOUNT SILICON
ULTRA FAST RECOVERY RECTIFIERS
1.0 AMP, 100 THRU 1000 VOLT

SMB CASE - MECHANICAL OUTLINE

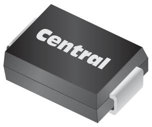


DEVICE	MARKING CODE
CMR1U-01	CU01
CMR1U-02	CU02
CMR1U-04	CU04
CMR1U-06	CU06
CMR1U-08	CU08
CMR1U-10	CU10

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

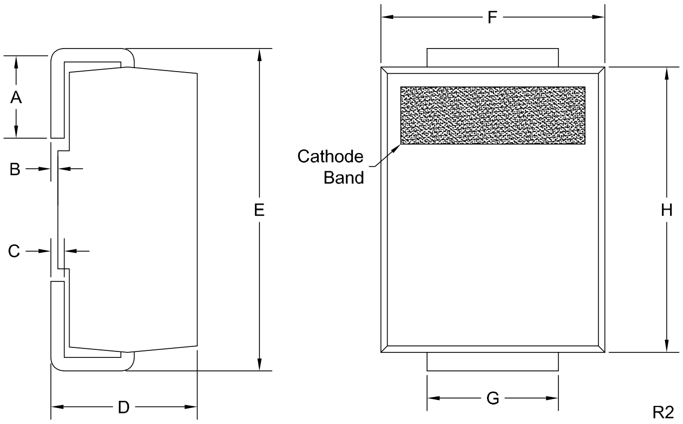
SMB (REV: R2)

Package Details
SMB Case



Central Semiconductor Corp.

Mechanical Drawing



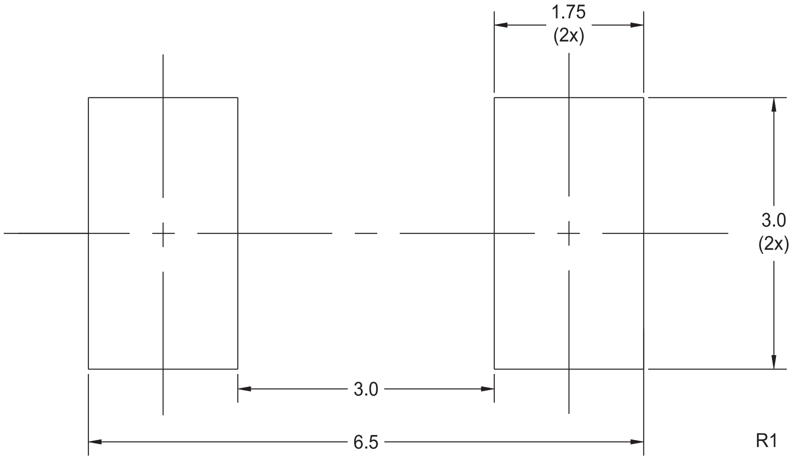
DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.000	0.008	0.00	0.20
C	0.006	0.012	0.15	0.30
D	0.086	0.096	2.18	2.44
E	0.200	0.220	5.08	5.59
F	0.130	0.150	3.30	3.81
G	0.077	0.083	1.96	2.11
H	0.160	0.191	4.06	4.85

SMB (REV: R2)

Lead Code:
Reference individual
device datasheet.

Part Marking: 3-6 Character Alpha/Numeric Code

Mounting Pad Geometry (Dimensions in mm)

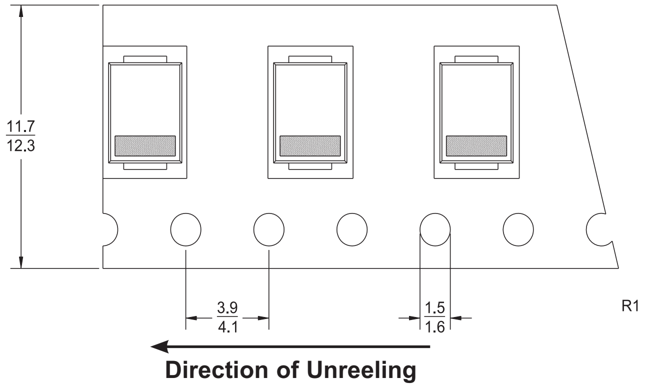


R3 (4-September 2018)

Package Details

SMB Case

Tape Dimensions and Orientation (Dimensions in mm)



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

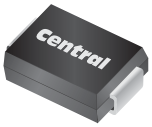
Reel Size	Reels per Box (Maximum)	Parts per Box (Maximum)	Box Dimensions		Shipping Weight (Max.)	
			INCH	CM	LB	KG
13”	5	15,000	15x4x15	38x10x38	8	4
	14	42,000	15x15x9	38x38x23	21	10
	26	78,000	15x15x18	38x38x46	39	18

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.

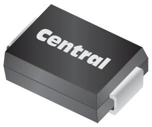
**For Lead Free plating, add suffix “PB FREE” to part number.
For Tin/Lead plating, add suffix “TIN/LEAD” to part number.
No suffix designation allows for the supply of either lead-free or tin/lead plated product depending on availability.

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.

R5 (16-July 2018)

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
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				Sn	7440-31-5	0.12%	0.113	1,228
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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
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**For Lead Free plating, add suffix “PB FREE” to part number.
For Tin/Lead plating, add suffix “TIN/LEAD” to part number.
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R5 (16-July 2018)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES

PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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www.centralsemi.com

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www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors

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