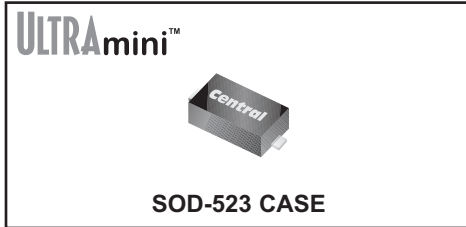




CMOD6001-RZ

**SURFACE MOUNT
ULTRA LOW LEAKAGE
SILICON SWITCHING DIODE
RUGGEDIZED PACKAGING**



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMOD6001-RZ type is a silicon switching diode manufactured by the epitaxial planar process, epoxy molded in a ULTRAmimi™ surface mount package, designed for switching applications requiring an extremely low leakage diode. It features a robust design manufactured specifically for operation in harsh environments where temperature and moisture may contribute to degraded performance and reliability.

UNIQUE DEVICE CONSTRUCTION FEATURES:

- Alloy 42 or pure copper lead frame
- Eutectic die attach
- Gold wire bond
- Pb/Sn lead plating available

MARKING CODE: 61

MAXIMUM RATINGS: (T_A=25°C)

Continuous Reverse Voltage
Peak Repetitive Reverse Voltage
Continuous Forward Current
Peak Repetitive Forward Current
Peak Forward Surge Current, tp=1.0µs
Peak Forward Surge Current, tp=1.0s
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL		UNITS
V _R	75	V
V _{RRM}	100	V
I _F	250	mA
I _{FRM}	250	mA
I _{FSM}	4.0	A
I _{FSM}	1.0	A
P _D	250	mW
T _J , T _{stg}	-65 to +150	°C
θ _{JA}	500	°C/W

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

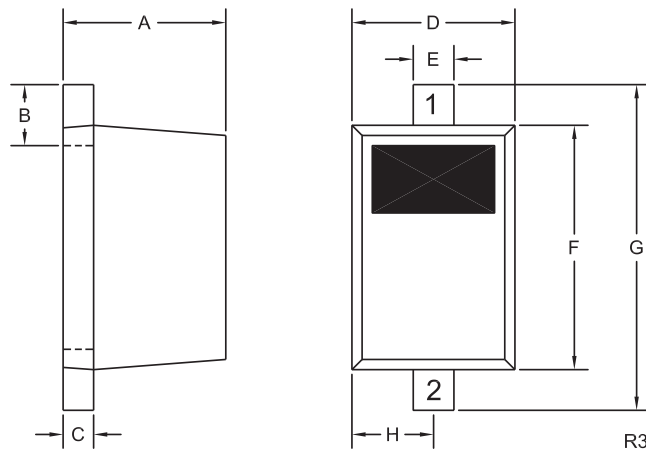
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _R	V _R =75V		500	pA
BV _R	I _R =100µA	100		V
V _F	I _F =1.0mA		0.85	V
V _F	I _F =10mA		0.95	V
V _F	I _F =100mA		1.1	V
C _T	V _R =0, f=1.0MHz		2.0	pF
t _{rr}	I _R =I _F =10mA, I _{rr} =1.0mA, R _L =100Ω		3.0	µs

R0 (16-April 2026)

CMOD6001-RZ

**SURFACE MOUNT
ULTRA LOW LEAKAGE
SILICON SWITCHING DIODE
RUGGEDIZED PACKAGING**

SOD-523 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Cathode
- 2) Anode

MARKING CODE: 61

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.020	0.031	0.50	0.80
B	0.008	0.016	0.20	0.40
C	0.002	0.008	0.05	0.20
D	0.028	0.035	0.70	0.90
E	0.008	0.014	0.20	0.35
F	0.039	0.055	1.00	1.40
G	0.055	0.071	1.40	1.80
H	0.016		0.40	

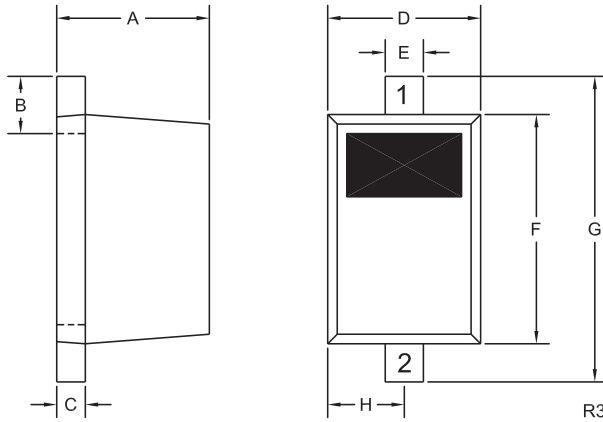
SOD-523 (REV: R3)

R0 (16-April 2026)

Package Details
SOD-523 Case



Mechanical Drawing



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.020	0.031	0.50	0.80
B	0.008	0.016	0.20	0.40
C	0.002	0.008	0.05	0.20
D	0.028	0.035	0.70	0.90
E	0.008	0.014	0.20	0.35
F	0.039	0.055	1.00	1.40
G	0.055	0.071	1.40	1.80
H	0.016		0.40	

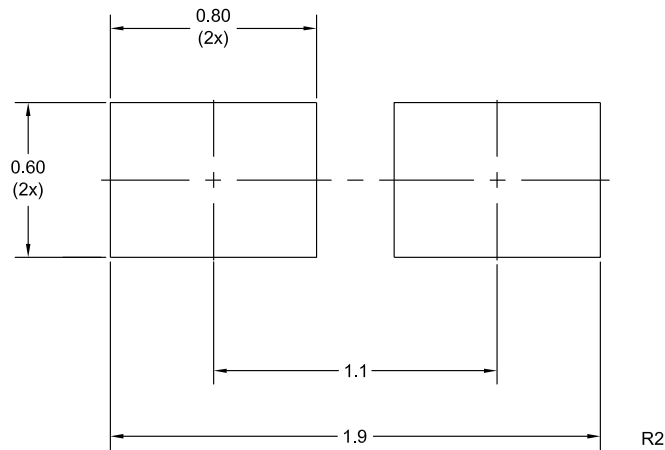
SOD-523 (REV: R3)

Lead Code:

- 1) Cathode
- 2) Anode

Part Marking: 2-3 Character Alpha/Numeric Code

Mounting Pad Geometry (Dimensions in mm)



R6 (11-April 2011)

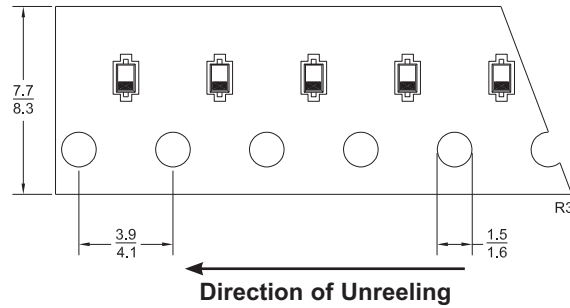
Package Details

SOD-523 Case



Tape Dimensions and Orientation (Dimensions in mm)

Tape Width: 8mm



Devices are taped in accordance with Electronic Industries Association Standard EIA-481-1-A

Packaging Base

7" 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, Ship Date and Marking Code.

Reel Packing Information

Reel Size	Reels per Box (Maximum)	Parts per Box (Maximum)	Box Dimensions		Shipping Weight (Max.)	
			INCH	CM	LB	KG
7"	9	27,000	9x9x5	23x23x13	3	2
	18	54,000	9x9x9	23x23x23	5	3
	40	120,000	21x9x9	53x23x23	11	5
	108	324,000	27x9x17	69x23x43	30	14

Ordering Information

- For devices taped and reeled on 7" reels, add TR suffix to part number.
- All SMDs are available in small quantities for prototype and manual placement applications.

R6 (11-April 2011)

Material Composition Specification

SOD-523 Case



Device average mass 1.37 mg
 Fluctuation margin +/-10%

Component	Material	Material		Substance	CAS No.	Substance		
		(%wt)	(mg)			(%wt)	(mg)	(ppm)
active device	doped Si	5.11%	0.07	Si	7440-21-3	5.11%	0.07	51,095
bond wire	gold or copper	0.44%	0.01	Au	7440-57-5	0.44%	0.006	4,380
				Cu	7440-50-8			
leadframe	alloy 42 w/ silver plating	32.26%	0.44	Fe	7439-89-6	18.69%	0.256	186,861
				Ni	7440-02-0	12.99%	0.178	129,927
				Ag	7440-22-4	0.58%	0.008	5,839
encapsulation*	EMC	60.74%	0.83	silica	7631-86-9	43.8%	0.6	437,956
				epoxy resin	Proprietary	15.26%	0.209	152,555
				Sb ₂ O ₃	1309-64-4	1.24%	0.017	12,409
				TBBA	79-94-7	0.29%	0.004	2,920
				carbon	1333-86-4	0.15%	0.002	1,460
	EMC GREEN	60.74%	0.83	silica	60676-86-0	40.59%	0.556	405,915
				epoxy resin	29690-82-2	9.22%	0.126	92,196
				phenol resin	9003-35-4	4.63%	0.063	46,255
				carbon black	1333-86-4	0.31%	0.004	3,147
				metal hydroxide	1309-42-8	5.98%	0.082	59,786
plating**	tin/lead process	1.46%	0.02	Sn	7440-31-5	1.17%	0.016	11,679
				Pb	7439-92-1	0.29%	0.004	2,920
	matte tin	1.46%	0.02	Sn	7440-31-5	1.46%	0.02	14,599

*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.

R8 (16-July 2018)

Material Composition Specification

SOD-523 Case



Device average mass 1.37 mg
 Fluctuation margin +/-10%

Component	Material	Material		Substance	CAS No.	Substance		
		(%wt)	(mg)			(%wt)	(mg)	(ppm)
active device	doped Si	5.11%	0.07	Si	7440-21-3	5.11%	0.07	51,095
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leadframe	alloy 42 w/ silver plating	32.26%	0.44	Fe	7439-89-6	18.69%	0.256	186,861
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R8 (16-July 2018)