

CMF5.0A  
THRU  
CMF170A

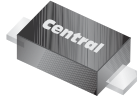


**SURFACE MOUNT  
UNI-DIRECTIONAL SILICON  
TRANSIENT VOLTAGE SUPPRESSOR  
200 WATTS, 5.0 THRU 170 VOLTS**



www.centrasemi.com

Specified by  
STAND-OFF VOLTAGE



SOD-123F CASE

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMF5.0 Series of Transient Voltage Suppressors are designed to protect sensitive electronic components from high voltage, high-energy transients. High surge capability, low impedance, low clamping voltage, fast response time and small size make this an excellent choice for industrial/consumer applications, such as cell phones, power supplies and portable devices.

**MARKING CODE: SEE ELECTRICAL CHARACTERISTICS TABLE**

**APPLICATIONS:**

- Digital cameras
- Cell phones and accessories
- Desktop and laptop computers
- PDAs

**FEATURES:**

- Stand-off voltage 5 to 170 Volts
- Very low leakage current
- Low clamping voltage
- 200 Watt peak power dissipation
- Small, high thermal efficiency, SOD-123F flat lead package

**MAXIMUM RATINGS:** ( $T_A=25^{\circ}\text{C}$ )

Peak Pulse Power (10/1000 $\mu\text{s}$  Waveform)

ESD Voltage (HBM)

Operating and Storage Junction Temperature

**SYMBOL**

$P_{PP}$  200

$V_{ESD}$  25

$T_J, T_{stg}$  -65 to +150

**UNITS**

W

kV

$^{\circ}\text{C}$

**ELECTRICAL CHARACTERISTICS:** ( $T_J=25^{\circ}\text{C}$  unless otherwise noted)

Type	Reverse Stand-Off Voltage	Breakdown Voltage		Test Current	Reverse Leakage Current	Maximum Clamping Voltage	Peak Pulse Current	Marking Code
	$V_{RWM}$	$V_{BR} @ I_T$		$I_T$	$I_R @ V_{RWM}$	$V_C @ I_{PP}$	$I_{PP}$	
	V	MIN V	MAX V	mA	$\mu\text{A}$	V	A	
CMF5.0A	5.0	6.4	7.0	10	400	9.2	21.7	CM05A
CMF6.0A	6.0	6.67	7.37	10	400	10.3	19.4	CM06A
CMF6.5A	6.5	7.22	7.98	10	250	11.2	17.9	CM065
CMF7.0A	7.0	7.78	8.6	10	100	12	16.7	CM07A
CMF7.5A	7.5	8.33	9.21	1.0	50	12.9	15.5	CM075
CMF8.0A	8.0	8.89	9.83	1.0	25	13.6	14.7	CM08A
CMF8.5A	8.5	9.44	10.4	1.0	10	14.4	13.9	CM085
CMF9.0A	9.0	10	11.1	1.0	5.0	15.4	13	CM09A
CMF10A	10	11.1	12.3	1.0	2.5	17	11.8	CM10A
CMF11A	11	12.2	13.5	1.0	2.5	18.2	11	CM11A
CMF12A	12	13.3	14.7	1.0	2.5	19.9	10.1	CM12A
CMF13A	13	14.4	15.9	1.0	1.0	21.5	9.3	CM13A
CMF14A	14	15.6	17.2	1.0	1.0	23.2	8.6	CM14A
CMF15A	15	16.7	18.5	1.0	1.0	24.4	8.2	CM15A
CMF16A	16	17.8	19.7	1.0	1.0	26	7.7	CM16A
CMF17A	17	18.9	20.9	1.0	1.0	27.6	7.2	CM17A
CMF18A	18	20	22.1	1.0	1.0	29.2	6.8	CM18A

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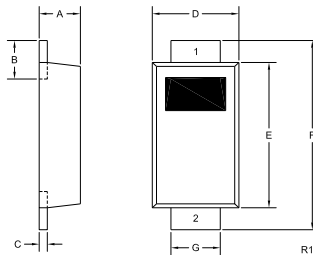
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**ELECTRICAL CHARACTERISTICS - Continued:**

Type	Reverse Stand-Off Voltage	Breakdown Voltage		Test Current	Reverse Leakage Current	Maximum Clamping Voltage	Peak Pulse Current	Marking Code
	$V_{RWM}$	$V_{BR} @ I_T$		$I_T$	$I_R @ V_{RWM}$	$V_C @ I_{PP}$	$I_{PP}$	
	V	MIN V	MAX V	mA	$\mu A$	V	A	
CMF20A	20	22.2	24.5	1.0	1.0	32.4	6.2	CM20A
CMF22A	22	24.4	26.9	1.0	1.0	35.5	5.6	CM22A
CMF24A	24	26.7	29.5	1.0	1.0	38.9	5.1	CM24A
CMF26A	26	28.9	31.9	1.0	1.0	42.1	4.8	CM26A
CMF28A	28	31.1	34.4	1.0	1.0	45.4	4.4	CM28A
CMF30A	30	33.3	36.8	1.0	1.0	48.4	4.1	CM30A
CMF33A	33	36.7	40.6	1.0	1.0	53.3	3.8	CM33A
CMF36A	36	40	44.2	1.0	1.0	58.1	3.4	CM36A
CMF40A	40	44.4	49.1	1.0	1.0	64.5	3.1	CM40A
CMF43A	43	47.8	52.8	1.0	1.0	69.4	2.9	CM43A
CMF45A	45	50	55.3	1.0	1.0	72.7	2.8	CM45A
CMF48A	48	53.3	58.9	1.0	1.0	77.4	2.6	CM48A
CMF51A	51	56.7	62.7	1.0	1.0	82.4	2.4	CM51A
CMF54A	54	60	66.3	1.0	1.0	87.1	2.3	CM54A
CMF58A	58	64.4	71.2	1.0	1.0	93.6	2.1	CM58A
CMF60A	60	66.7	73.7	1.0	1.0	96.8	1.8	CM60A
CMF64A	64	71.1	78.6	1.0	1.0	103	1.7	CM64A
CMF70A	70	77.8	86	1.0	1.0	113	1.5	CM70A
CMF75A	75	83.3	92.1	1.0	1.0	121	1.4	CM75A
CMF78A	78	86.7	95.8	1.0	1.0	126	1.4	CM78A
CMF85A	85	94.4	104	1.0	1.0	137	1.3	CM85A
CMF90A	90	100	111	1.0	1.0	146	1.2	CM90A
CMF100A	100	111	123	1.0	1.0	162	1.1	CM100
CMF110A	110	122	135	1.0	1.0	177	1.0	CM110
CMF120A	120	133	147	1.0	1.0	193	0.9	CM120
CMF130A	130	144	159	1.0	1.0	209	0.8	CM130
CMF150A	150	167	185	1.0	1.0	243	0.7	CM150
CMF160A	160	178	197	1.0	1.0	259	0.7	CM160
CMF170A	170	189	209	1.0	1.0	275	0.6	CM170

**SOD-123F CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.88	1.08
B	0.020	0.031	0.50	0.80
C	0.004	0.008	0.10	0.20
D	0.065	0.077	1.65	1.95
E	0.104	0.116	2.65	2.95
F	0.140	0.156	3.55	3.95
G	0.030	0.041	0.75	1.05

SOD-123F (REV:R1)

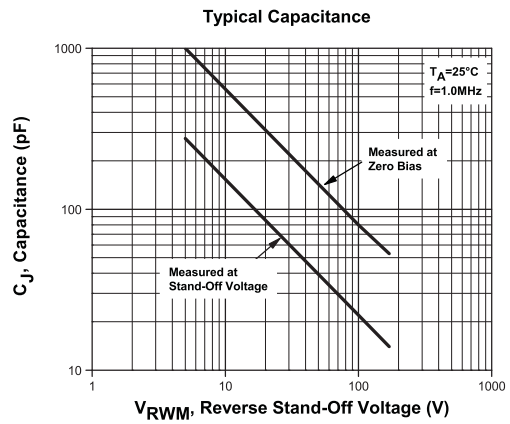
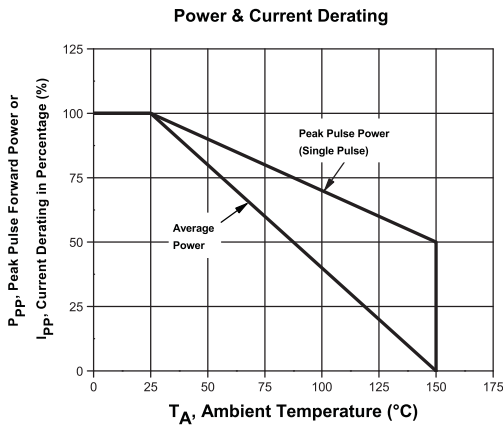
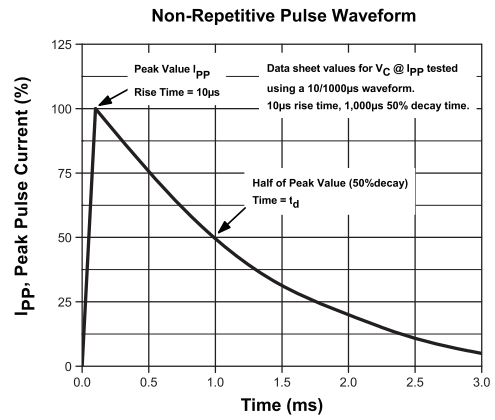
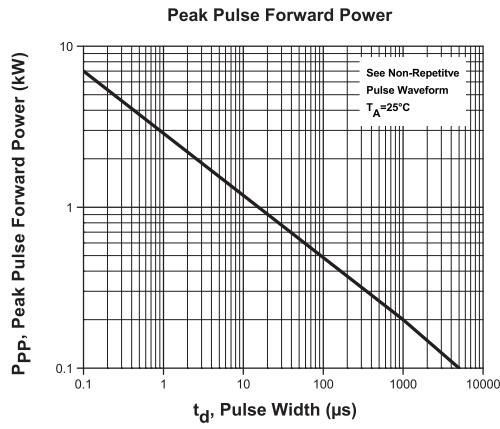
R3 (8-January 2010)

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### TYPICAL ELECTRICAL CHARACTERISTICS



R3 (8-January 2010)



## OUTSTANDING SUPPORT AND SUPERIOR SERVICES

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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### 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).

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### CONTACT US

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