

CMPLC1V5  
CMPLC1V5D

**SURFACE MOUNT SILICON  
LOW CAPACITANCE  
ESD TRANSIENT  
DATA LINE PROTECTORS**



[www.centrasemi.com](http://www.centrasemi.com)



**SOT-23 CASE**

**DESCRIPTION:**

CENTRAL SEMICONDUCTOR CMPLC1V5 (Single) and CMPLC1V5D (Dual) types are low capacitance silicon ESD Transient data line protectors packaged in the SOT-23 surface mount package. These devices provide protection to sensitive electronic devices from spurious ESD voltage transients and feature the lowest breakdown voltage available today making them ideal for circuits operating as low as 1.2V and 1.5V DC. Typical applications include: high speed data lines, mobile phones, PDA's, microcontrollers, microprocessor I/O interfaces, and LAN/WAN equipment.

**MARKING CODES:**

CMPLC1V5 (SINGLE): CLV5

CMPLC1V5D (DUAL): CV5D

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

Reverse Stand-off Voltage  
Peak Power Dissipation (8x20 $\mu\text{s}$ )  
Peak Pulse Current (8x20 $\mu\text{s}$ )  
Electrical Fast Transient (IEC 61000-4-4) (5x50ns)  
ESD Voltage (IEC 61000-4-2, Air)  
ESD Voltage (IEC 61000-4-2, Contact)  
Operating Temperature  
Storage Temperature

**SYMBOL**

$V_{RWM}$  1.5  
 $P_{PK}$  50  
 $I_{PP}$  5.0  
EFT 40  
 $V_{ESD}$  25  
 $V_{ESD}$  25  
 $T_J$  -50 to +125  
 $T_{stg}$  -50 to +150

**UNITS**

V  
W  
A  
A  
kV  
kV  
 $^\circ\text{C}$   
 $^\circ\text{C}$

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

Maximum Reverse Stand-off Voltage $V_{RWM}$	Minimum Breakdown Voltage $V_{BR} @ I_T$	Test Current $I_T$	Maximum Reverse Leakage Current $I_R @ V_{RWM}$	Maximum Clamping Voltage (8x20 $\mu\text{s}$ ) $V_C @ I_{PP}$		Typical TLP Clamping Voltage (Note 1) $V_{CL} @ I_{PP}$		Typical Dynamic Resistance (Note 1) $R_{DYN}$	Maximum Junction Capacitance @ 0V Bias $C_J$
V	V	mA	$\mu\text{A}$	V	A	V	A	$\Omega$	pF
1.5	1.75	0.1	1.0	4.0	1.0	6.0	3.6	0.97	10
	2.1	1.0		7.0	3.0	13	10.8		

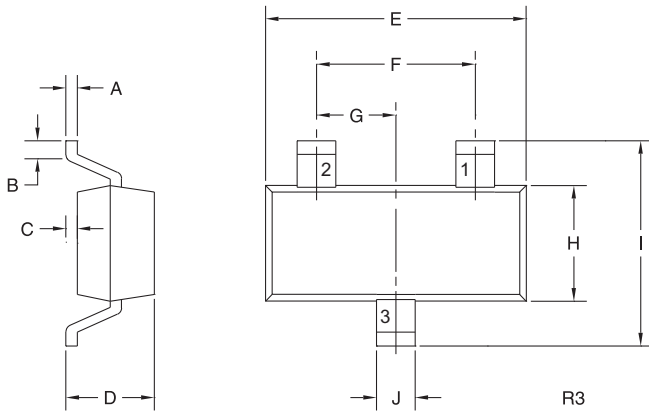
Note 1: Transmission Line Pulse (TLP) conditions:  $Z_0=50\Omega$ ,  $t_p=100\text{ns}$

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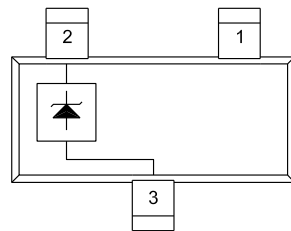
SOT-23 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

PIN CONFIGURATIONS

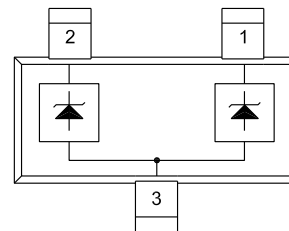


**CMPLC1V5**

**LEAD CODE:**

- 1) No Connection
- 2) Line 2
- 3) Ground

**MARKING CODE: CLV5**



**CMPLC1V5D**

**LEAD CODE:**

- 1) Line 1
- 2) Line 2
- 3) Ground

**MARKING CODE: CV5D**

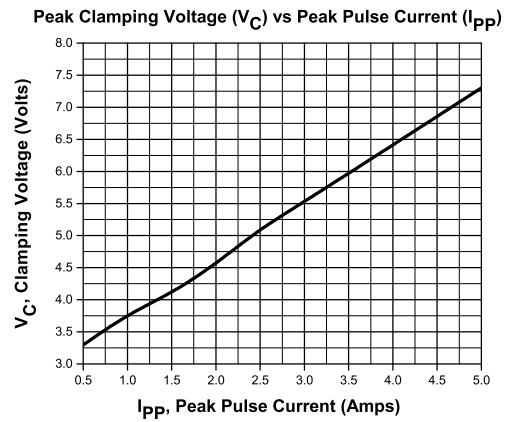
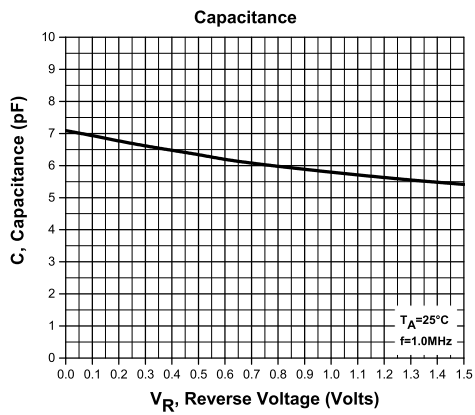
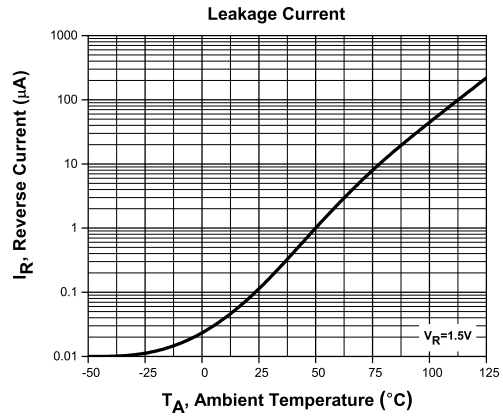
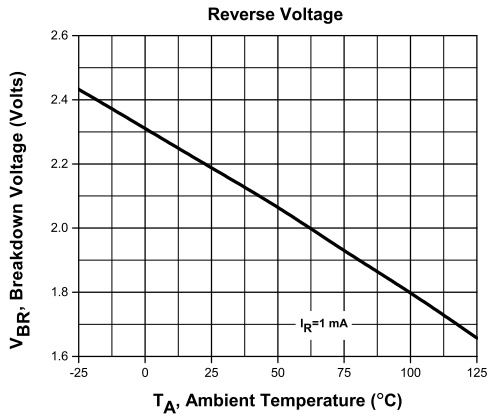
R3 (15-October 2015)

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### TYPICAL ELECTRICAL CHARACTERISTICS



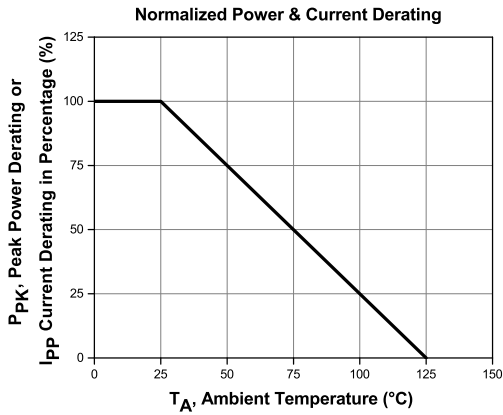
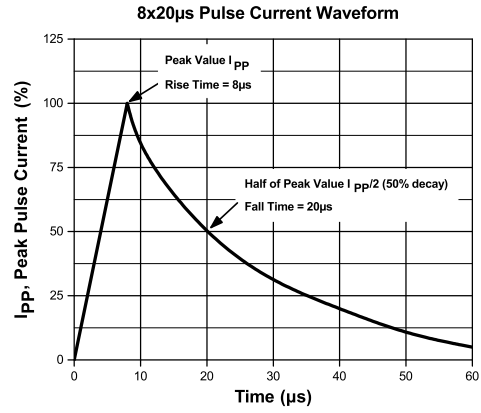
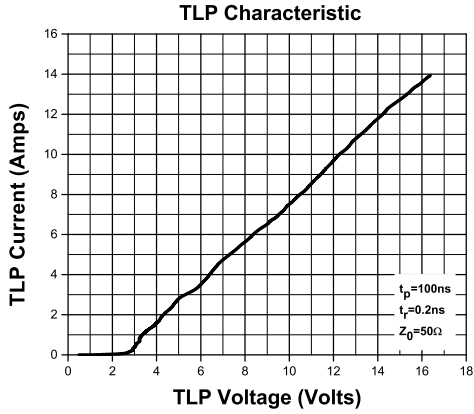
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TYPICAL ELECTRICAL CHARACTERISTICS



R3 (15-October 2015)

## 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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