

**CMPESD24CA****SURFACE MOUNT SILICON  
DUAL, BI-DIRECTIONAL  
ESD PROTECTION DIODE**[www.centrasemi.com](http://www.centrasemi.com)**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPESD24CA is a low capacitance, dual, bi-directional ESD protection diode. This device is designed to protect two data lines against ESD damage.

**MARKING CODE: 24CA****SOT-23 CASE****APPLICATIONS:**

- Data line protection
- User interface protection
- Charging/power port protection

**FEATURES:**

- Dual data line protection
- Low capacitance
- Low leakage current

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

Peak Power Dissipation (8x20 $\mu\text{s}$ )	210	W
Electrical Fast Transient (IEC 61000-4-4) (5x50ns)	40	A
ESD Voltage (IEC 61000-4-2, Air)	20	kV
ESD Voltage (IEC 61000-4-2, Contact)	20	kV
Operating Junction Temperature	-55 to +125	$^\circ\text{C}$
Storage Temperature	-55 to +150	$^\circ\text{C}$

**SYMBOL****UNITS**

$P_{PK}$	210	W
EFT	40	A
$V_{ESD}$	20	kV
$V_{ESD}$	20	kV
$T_J$	-55 to +125	$^\circ\text{C}$
$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

Maximum Reverse Stand-off Voltage $V_{RWM}$	Breakdown Voltage		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) $R_{DYN}$	Typical Junction Capacitance @ 0V Bias $C_J$
	MIN V	MAX V			V	A	V	A		
24	25.4	30.3	5.0	50	70	3.0	35	4.0	1.3	9.9
							41.9	13		

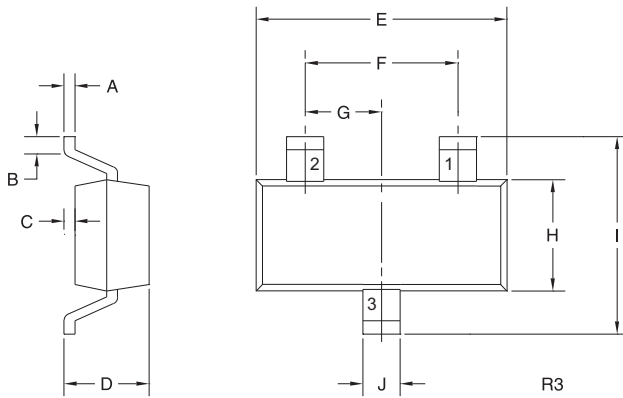
Note 1: Transmission Line Pulse (TLP) conditions:  $Z_0=50\Omega$ ,  $t_p=100\text{ns}$

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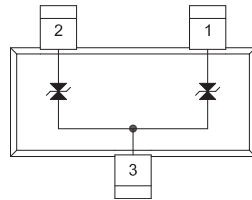
SOT-23 CASE - MECHANICAL OUTLINE



SYMBOL	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 CONFIGURATION

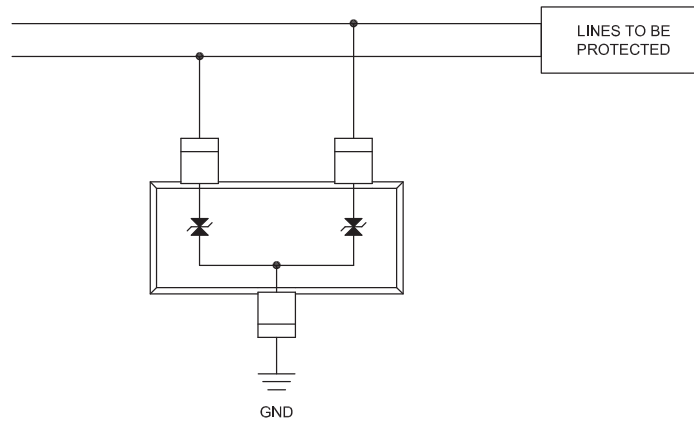


LEAD CODE:

- 1) Input 1
- 2) Input 2
- 3) Ground

MARKING CODE: 24CA

Application example:



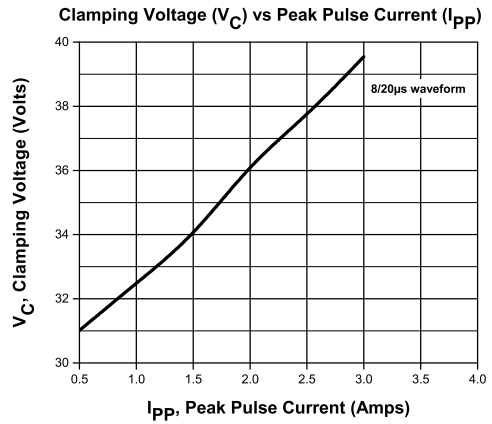
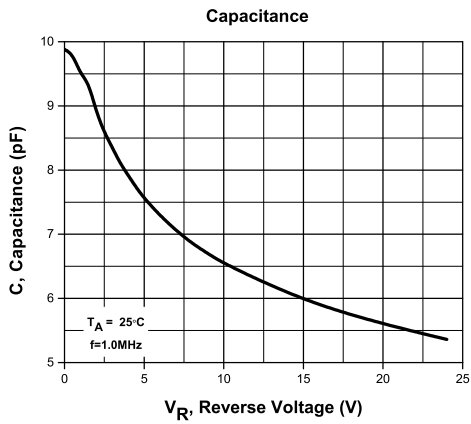
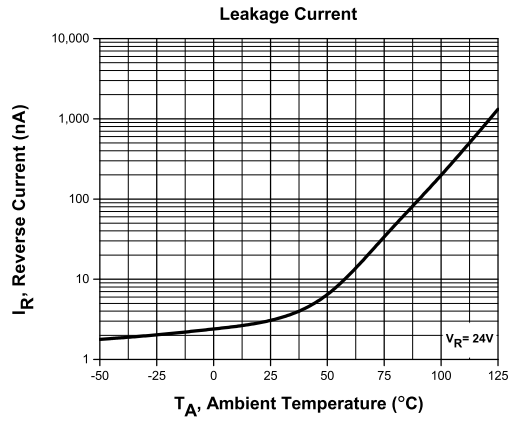
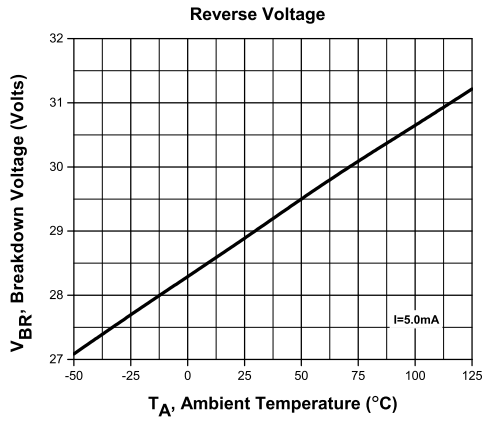
R4 (5-November 2015)

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TYPICAL ELECTRICAL CHARACTERISTICS



R4 (5-November 2015)

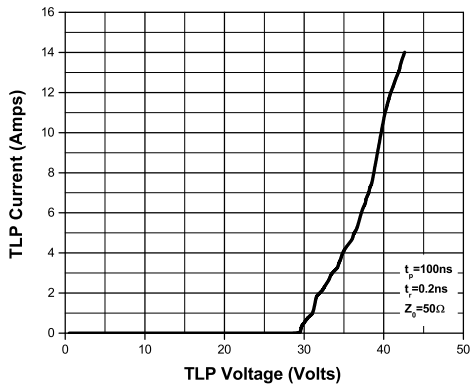
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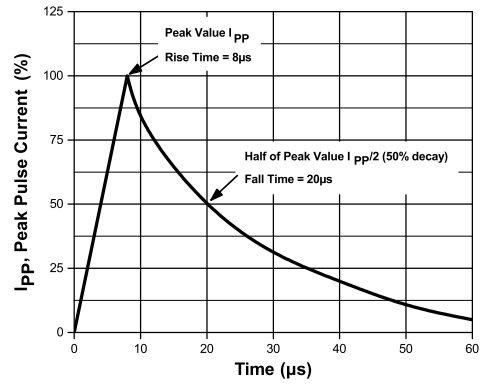


### TYPICAL ELECTRICAL CHARACTERISTICS

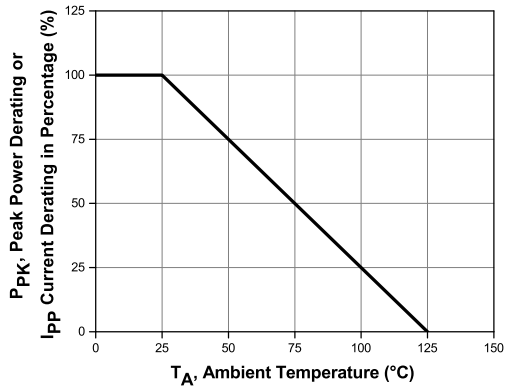
TLP Characteristic



8x20µs Pulse Current Waveform



Normalized Power & Current Derating



R4 (5-November 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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