

# CD4565 thru CD4584A



## TC Zener Diode Chip Series

Rev. V2

### Features

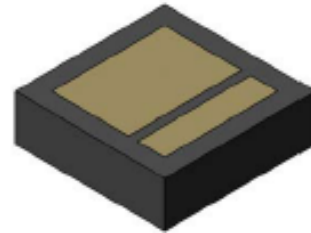
- All Junctions Completely Protected with Silicon Dioxide
- 6.4 V Zener  $\pm 5\%$
- Electrically Equivalent to 1N4565 - 1N4584A

### Description

These 0.5 W zener diodes are electrically equivalent to the 1N4565 - 1N4584A series diodes. They are compatible with all wire bonding and die attach techniques with the exception of solder reflow.

These diodes are available in JANHC and JANKC per MIL-PRF-19500/452.

### Die



### Electrical Specifications: $T_A = +25^\circ\text{C}$

Part #	Zener Test Current $I_{ZT}$	Effective Temperature Coefficient	Max. Voltage Temperature Stability $\Delta V_{ZT}$ $-55^\circ$ to $+100^\circ$ (Note 2)	Temperature Range	Max. Zener Impedance $Z_{ZT}$ (Note 1)
	mA	%/°C	mV	°C	Ohms
CD4565	0.5	0.01	48	0 to +75	200
CD4565A	0.5	0.01	100	-55 to +100	200
CD4566	0.5	0.005	24	0 to +75	200
CD4566A	0.5	0.005	50	-55 to +100	200
CD4567	0.5	0.002	10	0 to +75	200
CD4567A	0.5	0.002	20	-55 to +100	200
CD4568	0.5	0.001	5	0 to +75	200
CD4568A	0.5	0.001	10	-55 to +100	200
CD4569	0.5	0.0005	2.5	0 to +75	200
CD4569A	0.5	0.0005	5	-55 to +100	200
CD4570	1.0	0.01	48	0 to +75	100
CD4570A	1.0	0.01	100	-55 to +100	100
CD4571	1.0	0.005	24	0 to +75	100
CD4571A	1.0	0.005	50	-55 to +100	100
CD4572	1.0	0.002	10	0 to +75	100
CD4572A	1.0	0.002	20	-55 to +100	100
CD4573	1.0	0.001	5	0 to +75	100
CD4573A	1.0	0.001	10	-55 to +100	100

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1 \* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

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### Electrical Specifications: $T_A = +25^\circ\text{C}$

Part #	Zener Test Current $I_{ZT}$	Effective Temperature Coefficient	Max. Voltage Temperature Stability $\Delta V_{ZT}$ -55° to +100° (Note 2)	Temperature Range	Max. Zener Impedance $Z_{ZT}$ (Note 1)
	mA	%/°C	mV	°C	Ohms
CD4574	1.0	0.0005	2.5	0 to +75	100
CD4574A	1.0	0.0005	5	-55 to +100	100
CD4575	2.0	0.01	48	0 to +75	50
CD4575A	2.0	0.01	100	-55 to +100	50
CD4576	2.0	0.005	24	0 to +75	50
CD4576A	2.0	0.005	50	-55 to +100	50
CD4577	2.0	0.002	10	0 to +75	50
CD4577A	2.0	0.002	20	-55 to +100	50
CD4578	2.0	0.001	5	0 to +75	50
CD4578A	2.0	0.001	10	-55 to +100	50
CD4579	2.0	0.0005	2.5	0 to +75	50
CD4579A	2.0	0.0005	5	-55 to +100	50
CD4580	4.0	0.01	48	0 to +75	25
CD4580A	4.0	0.01	100	-55 to +100	25
CD4581	4.0	0.005	24	0 to +75	25
CD4581A	4.0	0.005	50	-55 to +100	25
CD4582	4.0	0.002	10	0 to +75	25
CD4582A	4.0	0.002	20	-55 to +100	25
CD4583	4.0	0.001	5	0 to +75	25
CD4583A	4.0	0.001	10	-55 to +100	25
CD4584	4.0	0.0005	2.5	0 to +75	25
CD4584A	4.0	0.0005	5	-55 to +100	25

1. Zener impedance is derived by superimposing on  $I_{ZT}$  a 60 Hz rms AC current equal to 10% of  $I_{ZT}$ .
2. The maximum allowable change observed over the entire temperature range i.e., the diode voltage will not exceed the specialized mV at any discrete temperature between the established limits, per JEDEC standard No.5.

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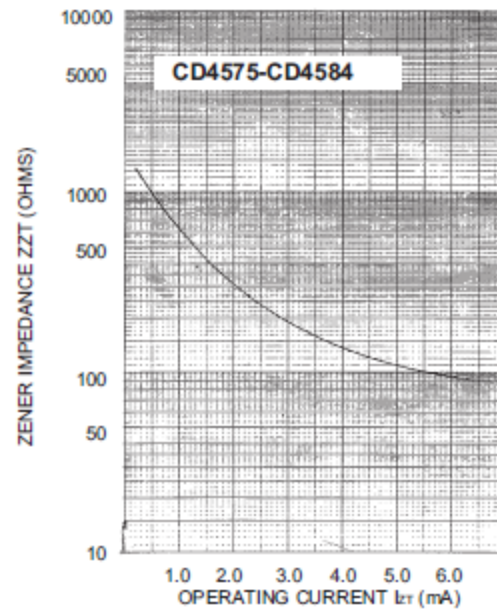
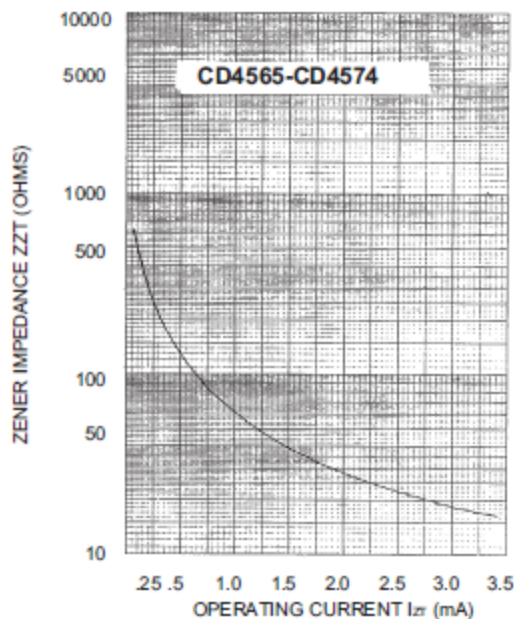
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### Absolute Maximum Ratings<sup>5,6</sup>

Parameter	Absolute Maximum
Reverse Leakage Current	$I_R = 2 \mu\text{A}$ , $V_R = 3 V_{DC}$
Operating Temperature	-65°C to +175°C
Storage Temperature	-65°C to +175°C

- Exceeding any one or combination of these limits may cause permanent damage to this device.
- VPT Components does not recommend sustained operation near these survivability limits.

### Zener Impedance vs. Operating Current



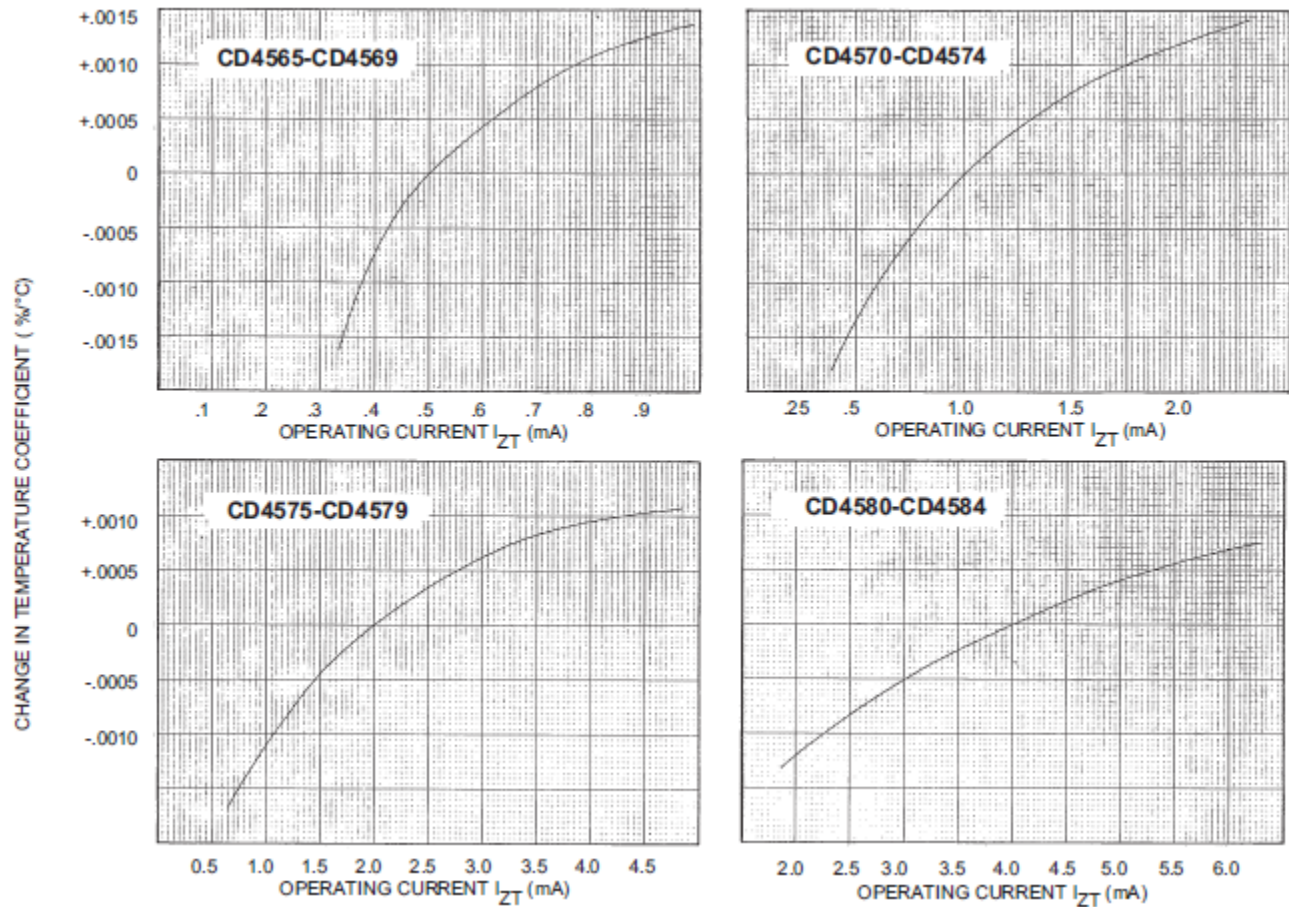
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## Typical Change of Temperature Coefficient with Change in Operating Current



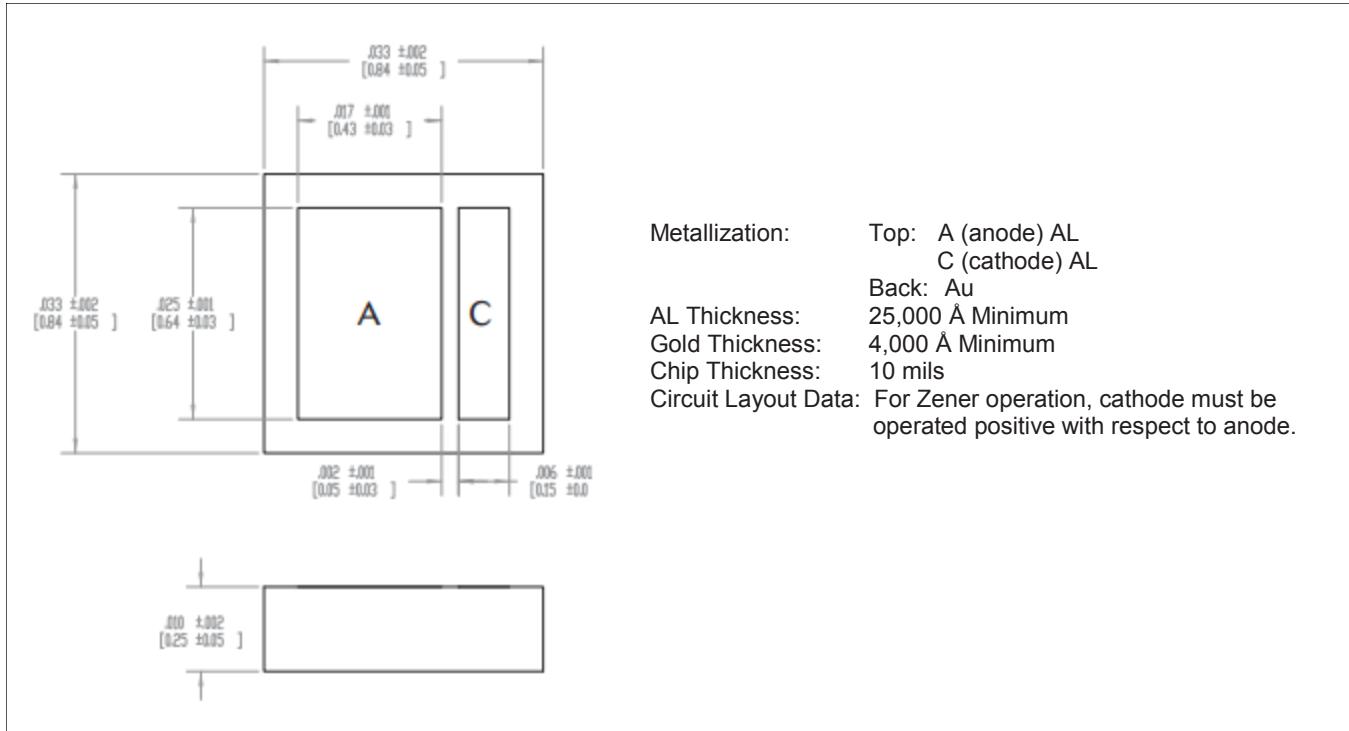
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### Die



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