

- 1N4565A THRU 1N4584A AVAILABLE IN JANHC AND JANKC PER MIL-PRF-19500/452
- ALL JUNCTIONS COMPLETELY PROTECTED WITH SILICON DIOXIDE
- 6.4 VOLT ZENER VOLTAGE  $\pm 5\%$
- ELECTRICALLY EQUIVALENT TO 1N4565 THRU 1N4584A
- COMPATIBLE WITH ALL WIRE BONDING AND DIE ATTACH TECHNIQUES, WITH THE EXCEPTION OF SOLDER RELOW

CD4565  
thru  
CD4584A

### MAXIMUM RATINGS

Operating Temperature:  $-65^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$

Storage Temperature:  $-65^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$

### REVERSE LEAKAGE CURRENT

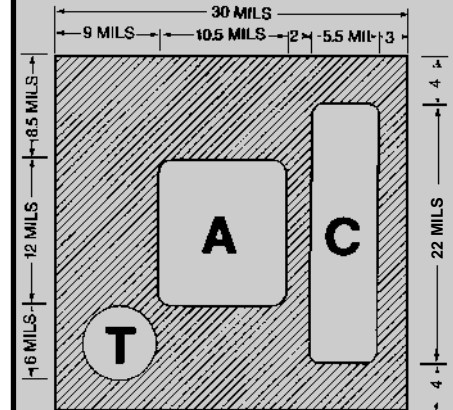
$I_R = 2 \mu\text{A}$  @  $25^{\circ}\text{C}$  &  $V_R = 3 \text{Vdc}$

ELECTRICAL CHARACTERISTICS @  $25^{\circ}\text{C}$ , unless otherwise specified.

TYPE NUMBER 6.4V $\pm 5\%$	ZENER TEST CURRENT $I_{ZT}$	EFFECTIVE TEMPERATURE COEFFICIENT	VOLTAGE TEMPERATURE STABILITY $\Delta V_{ZT} \text{ MAX}$ $-55^{\circ}$ to $+100^{\circ}$ (Note 2)	TEMPERATURE RANGE	MAXIMUM ZENER IMPEDANCE $Z_{ZT}$ (Note 1)
	mA	%/°C	mV	°C	OHMS
CD4565 CD4565A	.5 .5	.01 .01	48 100	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	200 200
CD4566 CD4566A	.5 .5	.005 .005	24 50	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	200 200
CD4567 CD4567A	.5 .5	.002 .002	10 20	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	200 200
CD4568 CD4568A	.5 .5	.001 .001	5 10	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	200 200
CD4569 CD4569A	.5 .5	.0005 .0005	2.5 5	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	200 200
CD4570 CD4570A	1.0 1.0	.01 .01	48 100	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	100 100
CD4571 CD4571A	1.0 1.0	.005 .005	24 50	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	100 100
CD4572 CD4572A	1.0 1.0	.002 .002	10 20	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	100 100
CD4573 CD4573A	1.0 1.0	.001 .001	5 10	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	100 100
CD4574 CD4574A	1.0 1.0	.0005 .0005	2.5 5	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	100 100
CD4575 CD4575A	2.0 2.0	.01 .01	48 100	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	50 50
CD4576 CD4576A	2.0 2.0	.005 .005	24 50	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	50 50
CD4577 CD4577A	2.0 2.0	.002 .002	10 20	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	50 50
CD4578 CD4578A	2.0 2.0	.001 .001	5 10	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	50 50
CD4579 CD4579A	2.0 2.0	.0005 .0005	2.5 5	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	50 50
CD4580 CD4580A	4.0 4.0	.01 .01	48 100	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	25 25
CD4581 CD4581A	4.0 4.0	.005 .005	24 50	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	25 25
CD4582 CD4582A	4.0 4.0	.002 .002	10 20	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	25 25
CD4583 CD4583A	4.0 4.0	.001 .001	5 10	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	25 25
CD4584 CD4584A	4.0 4.0	.0005 .0005	2.5 5	0 to $+75^{\circ}\text{C}$ $-55$ to $+100^{\circ}\text{C}$	25 25

**NOTE 1** Zener impedance is derived by superimposing on  $I_{ZT}$  A 60Hz rms a.c. current equal to 10% of  $I_{ZT}$ .

**NOTE 2** The maximum allowable change observed over the entire temperature range i.e., the diode voltage will not exceed the specified mV at any discrete temperature between the established limits, per JEDEC standard No.5.



Backside is not cathode and must be electrically isolated.

T = Metallization Test Pad

### DESIGN DATA

#### METALLIZATION:

Top: C (Cathode) .....Al  
A (Anode) .....Al  
Back: .....Au

AL THICKNESS.....25,000 Å Min

GOLD THICKNESS.....4,000 Å Min

CHIP THICKNESS.....10 Mils

#### CIRCUIT LAYOUT DATA:

Backside must be electrically isolated.

**Backside is not cathode.**

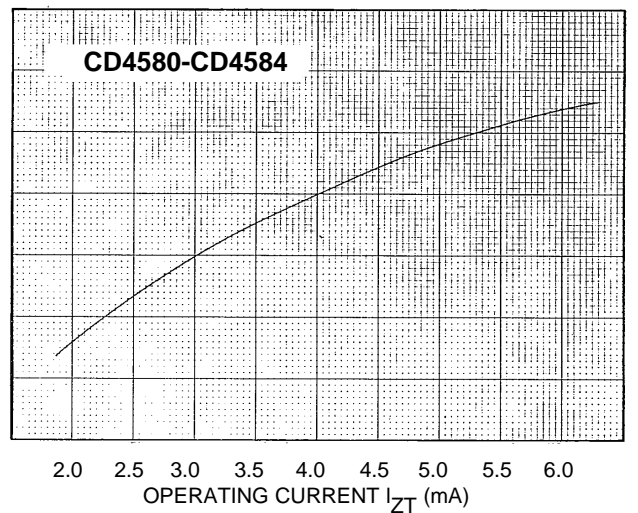
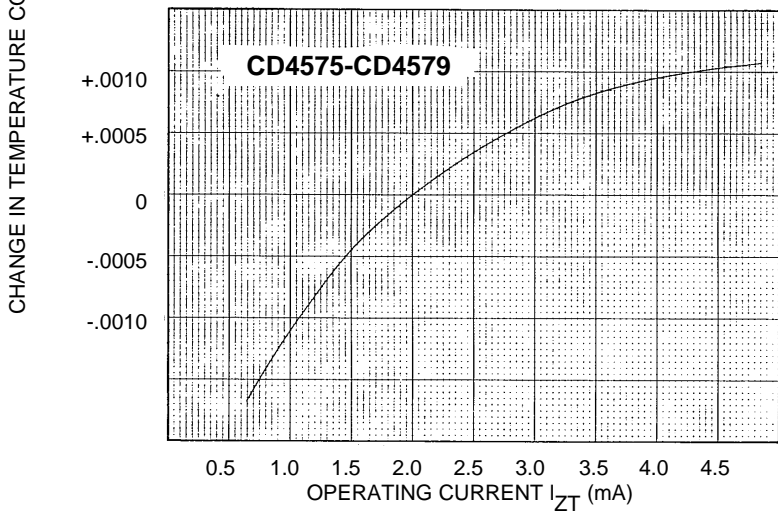
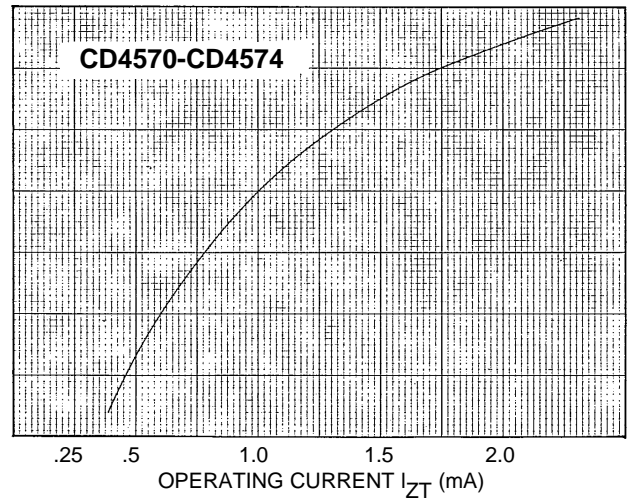
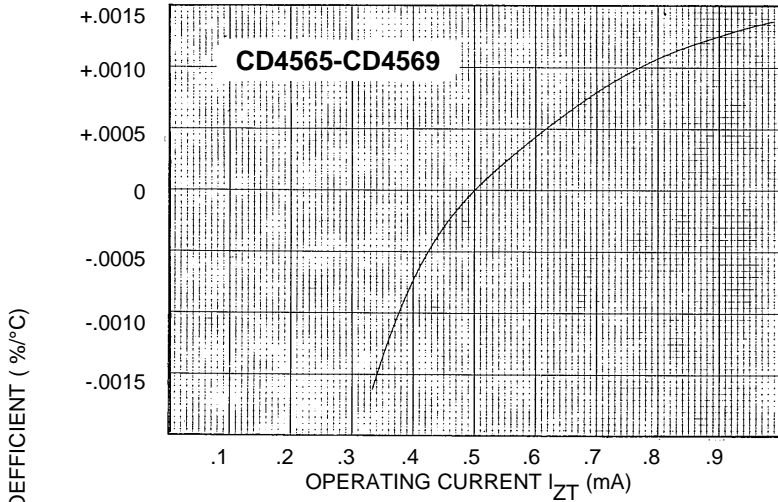
For Zener operation cathode must be operated positive with respect to anode.

#### TOLERANCES: ALL

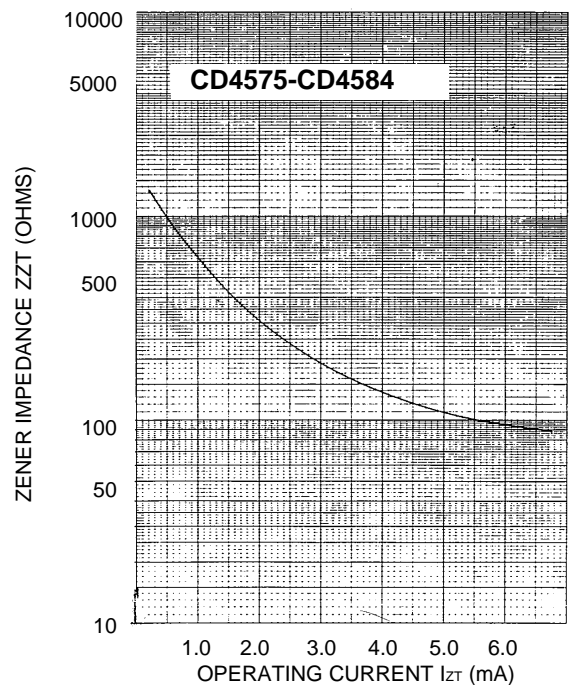
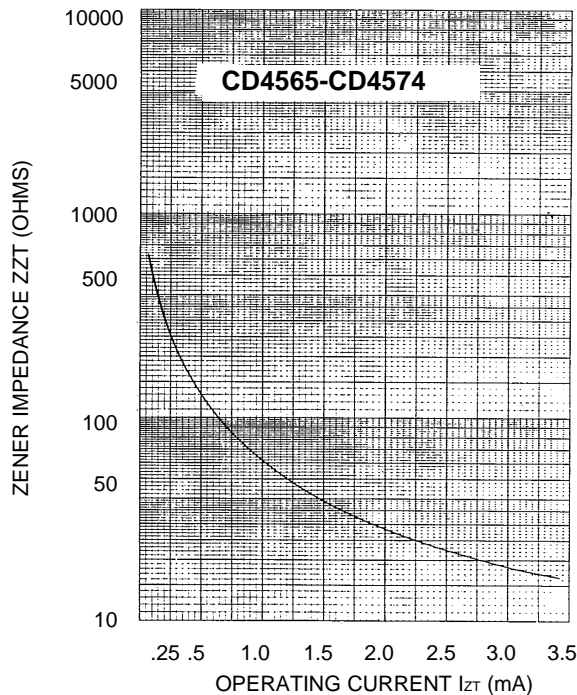
Dimensions  $\pm 2$  mils



# CD4565 thru CD4584A



**TYPICAL CHANGE OF TEMPERATURE COEFFICIENT WITH CHANGE IN OPERATING CURRENT**



**ZENER IMPEDANCE VS. OPERATING CURRENT**