

# CD914, CD3600, CD4148, CD4150, CD4153, CD4454, CD4531, CD6640, CD6642



## Silicon Switching Diode Chips

Rev. V1

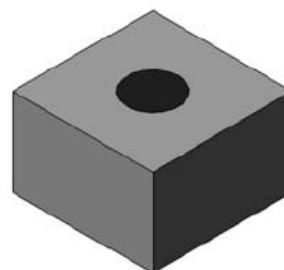
### Features

- All Junctions Completely Protected with Silicon Dioxide

### Die

### Description

These silicon switching diode chips are compatible with all wire bonding and die attach techniques with the exception of solder reflow.



Available in JANHC and JANKC per:

- CD914, CD4148 & CD4531: MIL-PRF-19500/116
- CD4153: MIL-PRF-19500/133
- CD6642: MIL-PRF-19500/578
- CD6640: MIL-PRF-19500/609

### Electrical Specifications: $T_A = +25^\circ\text{C}$ (unless otherwise specified)

TYPE Number	VBR @ 100 $\mu\text{A}$	VRWM	IO	VF1 IF = 10 mA	VF2 IF = 50 mA	VF3 IF = 100 mA	Trr	IR1 @ 20 Vdc	IR2	IR3 @ 20 Vdc TA = 150°C	IR4 TA = 150°C	Capacitance @ 0V	Capacitance @ 1.5 V
	Volts (min)	Volts (pk)	mA	Vdc	Vdc	Vdc	nsec	nA	$\mu\text{A @ V}$	$\mu\text{A}$	$\mu\text{A @ V}$	pF	pF
CD914	100	75	75	0.8	1.2	N/A	5	25	0.5 @ 75	35	75 @ 75	4.0	2.8
CD4148 CD4531	100	75	200	0.8	N/A	1.2	5	25	0.5 @ 75	35	75 @ 75	4.0	2.8
CD6642	100	75	200	0.8	N/A	1.2	5	25	0.5 @ 75	50	100 @ 75	4.0	2.8
CD4454	75	50	200	1.0	N/A	N/A	4	N/A	0.1 @ 50	N/A	100 @ 50	2.0	N/A

TYPE Number	VBR IR = 10 $\mu\text{A}^*$	VRWM	IR1 VR = 50 Vdc	IR2 VR = 50 Vdc TA = 150°C	Capacitance VR = 0; f = 1 MHz; ac signals = 50 mV (p-p)	Trr
	Volts (min)	Volts (pk)	$\mu\text{A Vdc}$	$\mu\text{A Vdc}$	pF	nsec
CD3600	75	50	0.10	100	2.5	4
CD4150	75	50	0.10	100	2.5	4
CD6640	75	50	0.10	90	2.5	4
CD4153	75*	50	0.05	150	2.0	4

\*@ 5  $\mu\text{A}$  for CD4153

Forward Voltage Limits - CD3600, CD4150 and CD6640:

Limits	VF1 IF = 1 mA dc (Pulsed)	VF2 IF = 10 mA dc (Pulsed)	VF3 IF = 50 mA dc (Pulsed)	VF4 IF = 100 mA dc (Pulsed)	VF5 IF = 200 mA dc (Pulsed)
	Vdc	Vdc	Vdc	Vdc	Vdc
minimum	0.540	0.680	0.760	0.820	0.870
maximum	0.620	0.740	0.860	0.920	1.000

Forward Voltage Limits - CD4153:

Limits	VF1 IF = 100 $\mu\text{A}$ dc	VF2 IF = 250 $\mu\text{A}$ dc	VF3 IF = 1 mA dc	VF4 IF = 2 mA dc	VF5 IF = 10 mA dc	VF6 IF = 20 mA dc
	Vdc	Vdc	Vdc	Vdc	Vdc	Vdc
minimum	0.49	0.53	0.59	0.62	0.70	0.74
maximum	0.55	0.59	0.67	0.70	0.81	0.88

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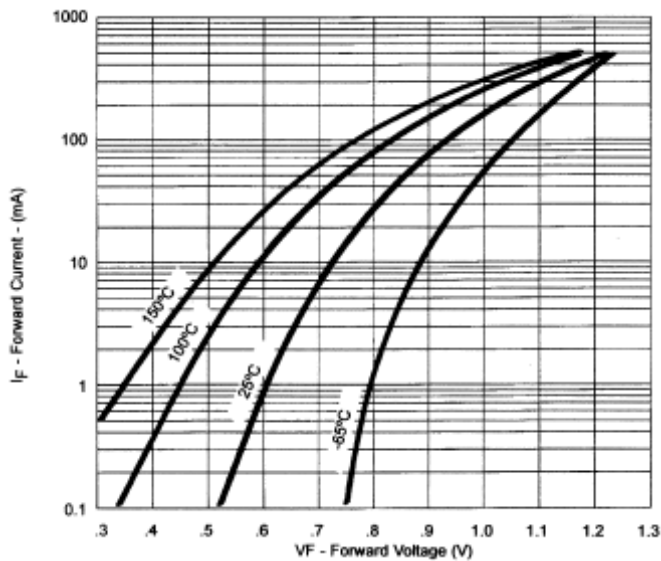
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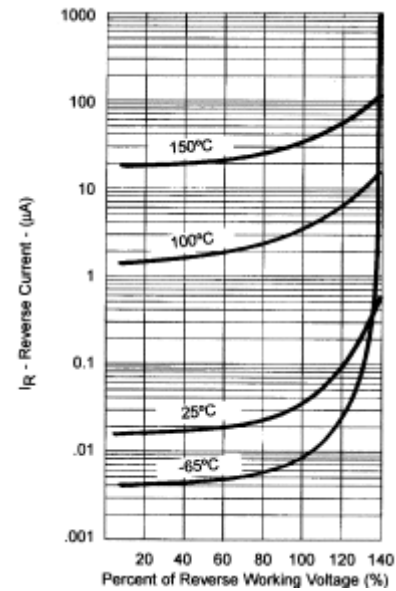
### Absolute Maximum Ratings<sup>1,2</sup>

Parameter	Absolute Maximum
Operating Temperature	-55°C to +175°C
Storage Temperature	-65°C to +175°C

### Forward Current vs. Forward Voltage

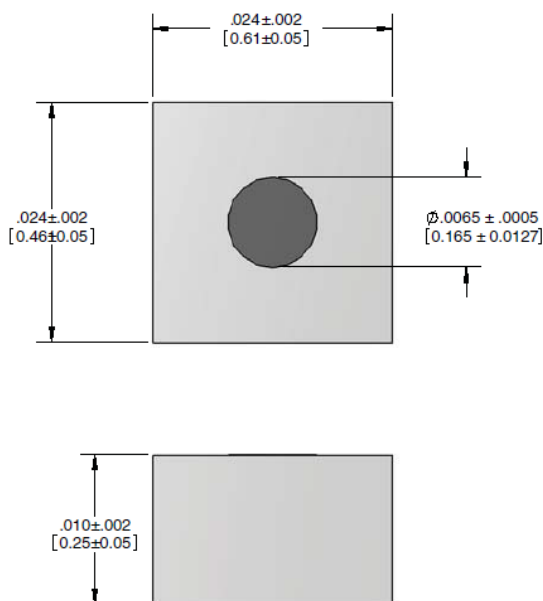


### Reverse Current vs. Reverse Voltage



All temperature shown on graphs is junction temperature.

### Die



Metallization: Top: (anode) AL  
Back: (cathode) Au  
AL Thickness: 25,000 Å Minimum  
Gold Thickness: 4,000 Å Minimum  
Chip Thickness: 10 mils

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