

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



Rev. V4

Silicon Switching Diode Chips

Features

- All Junctions Completely Protected with Silicon Dioxide

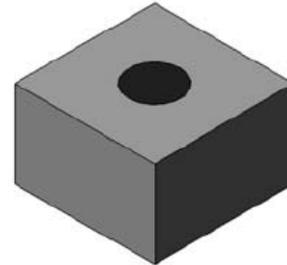
Description

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

Die



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

TYPE Number	VBR @ 100 μA	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	$\mu\text{A @ V}$	μA	$\mu\text{A @ V}$	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 μA^*	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 μA 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 μA dc	VF2 IF = 250 μA 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

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

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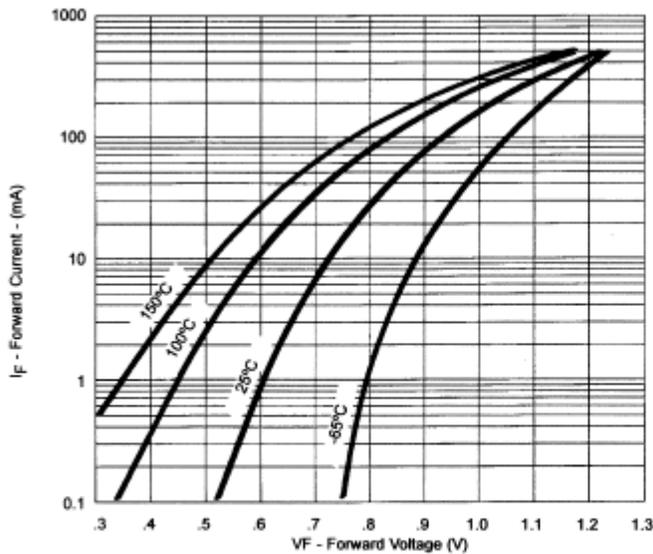
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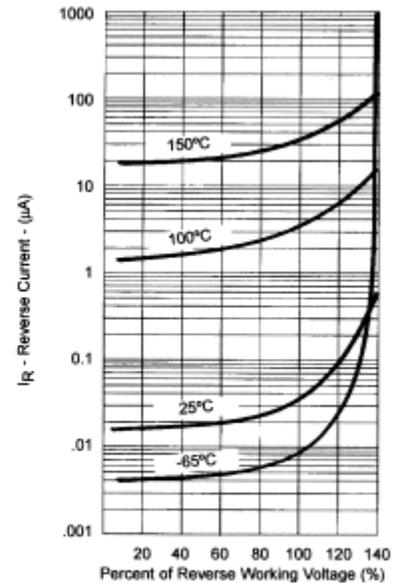
Absolute Maximum Ratings^{1,2}

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

Forward Current vs. Forward Voltage

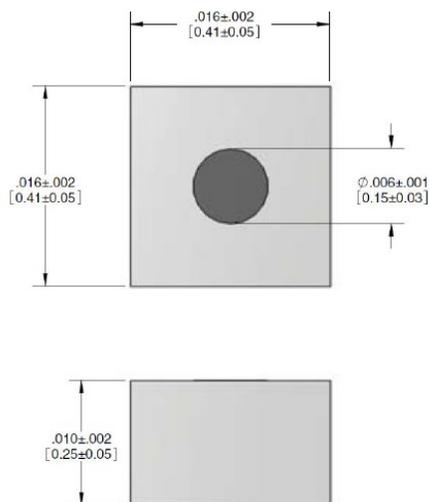


Reverse Current vs. Reverse Voltage



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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