



Silicon Switching Diode Chips

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

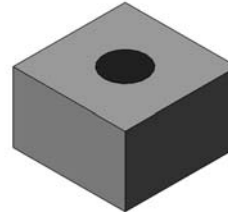
CD914, CD4148 & CD4531 available in JANHC & JANKC per MIL-PRF-19500/116

CD4153 available in JANHC & JANKC per MIL-PRF-19500/133



Features

- All junctions completely protected with silicon dioxide.
- Compatible with all wire bonding and die attach techniques.



Maximum Ratings

Operating Temperature: -55°C to 175°C
Storage Temperature: -65°C to +175°C

Electrical Specifications @ +25 °C (Unless Otherwise Specified)

TYPE Number	V _{BR} @ 100 μA	V _{RWM}	I _O	V _{F1} I _F = 10 mA	V _{F2} I _F = 50 mA	V _{F3} I _F = 100 mA	T _{rr}	I _{R1} @ 20 Vdc	I _{R2}	I _{R3} @ 20 Vdc T _A = 150°C	I _{R4} T _A = 150°C	Capacitance @ 0V	Capacitance @ 1.5 V
	Volts (min)	Volts (pk)	mA	Vdc	Vdc	Vdc	nsec	nA	μA @ V	μA	μA @ 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 CD6642	100	75	200	0.8	N/A	1.2	5	35	0.5 @ 75	35	75 @ 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	V _{BR} I _R = 10 μA*	V _{RWM}	I _{R1} V _R = 50 Vdc T _A = 150°C	I _{R2} V _R = 50 Vdc T _A = 150°C	Capacitance V _R = 0; f = 1 MHz; ac signals = 50 mV (p-p)	T _{rr}
	Volts (min)	Volts (pk)	μA Vdc	μA Vdc	pF	nsec
CD3600	75	50	0.10	100	2.5	4
CD4150 CD6640	75	50	0.10	100	2.5	4
CD4153	75*	50	0.05	150	2.0	4

*@ 5 μA for CD4153

Forward Voltage Limits - CD3600, CD4150 and CD6640:

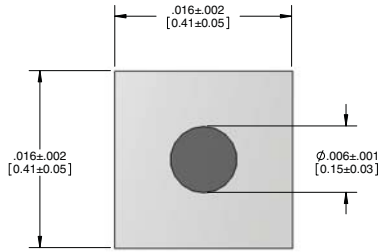
Limits	V _{F1} I _F = 1 mA dc	V _{F2} I _F = 10 mA dc	V _{F3} I _F = 50 mA dc (Pulsed)	V _{F4} I _F = 100 mA dc (Pulsed)	V _{F5} I _F = 200 mA dc (Pulsed)
	Vdc	Vdc	Vdc	Vdc	Vdc
minimum	0.540	0.680	0.780	0.820	0.870
maximum	0.620	0.740	0.860	0.920	1.000

Forward Voltage Limits - CD4153:

Limits	V _{F1} I _F = 100 μA dc	V _{F2} I _F = 250 μA dc	V _{F3} I _F = 1 mA dc	V _{F4} I _F = 2 mA dc	V _{F5} I _F = 10 mA dc	V _{F6} I _F = 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



Outline Drawing



DESIGN DATA

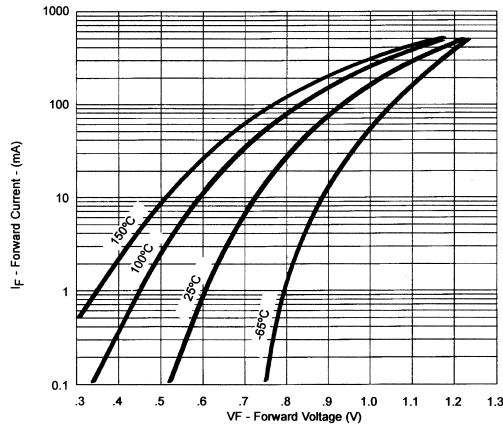
METALLIZATION: Top: (Anode) Al
Back: (Cathode) Au

AL THICKNESS: 25,000 Å Minimum

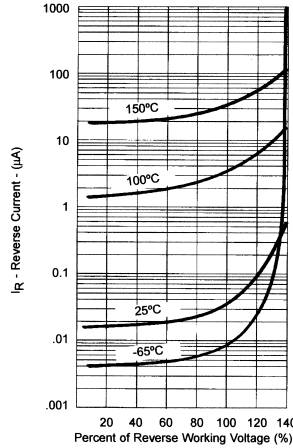
GOLD THICKNESS: 4,000 Å Minimum

CHIP THICKNESS: 10 Mils

Graphs



Typical Forward Current vs Forward Voltage



Typical Reverse Current vs Reverse Voltage

NOTE: All temperatures shown on graphs are junction temperatures

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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.