



THE DATASHEET OF CD4148



- IN4148 AVAILABLE IN JANHC AND JANKC
- SWITCHING DIODE CHIPS
- ALL JUNCTIONS COMPLETELY PROTECTED WITH SILICON DIOXIDE
- COMPATIBLE WITH ALL WIRE BONDING AND DIE ATTACH TECHNIQUES WITH THE EXCEPTION OF SOLDER REFLOW

CD4148
CD914
CD3600
CD4150
CD4153
CD4454

MAXIMUM RATINGS

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

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified

TYPE	V_{BR} @100 μ A	V_{RWM}	I_O	V_{F1} @ $I_F = 10$ mA	V_{F2} @ $I_F = 50$ mA	V_{F3} @ $I_F = 100$ mA	t_{rr}
	Volts (min)	Volts (pk)	mA	V_{dc}	V_{dc}	V_{dc}	n sec
CD914	100	75	75	0.8	1.2	N/A	5
CD4148	100	75	200	0.8	N/A	1.2	5
CD4454	75	50	200	1.0	N/A	N/A	4

TYPE	I_{R1} @20Vdc	I_{R2}	I_{R3} @20Vdc $T_A + 150^\circ\text{C}$	I_{R4} $T_A + 150^\circ\text{C}$	CAPACITANCE @0V	CAPACITANCE @1.5V
	nA	μ A @ V	μ A	μ A @ V	pF	pF
CD914	25	0.5 @ 75	35	75 @ 75	4.0	2.8
CD4148	25	0.5 @ 75	35	75 @ 75	4.0	2.8
CD4454	N/A	0.1 @ 50	N/A	100 @ 50	2.0	N/A

TYPE	V_{BR} $I_R = 10 \mu$ A*	V_{RWM}	I_{R1} $V_R = 50$ Vdc $T_A = 25^\circ\text{C}$	I_{R2} $V_R = 50$ Vdc $T_A = 150^\circ\text{C}$	C $V_R = 0$; $f = 1$ Mhz; ac signals = 50mV (p-p)	t_{rr}
	VOLTS (MIN)	V (pk)	μ A dc	μ A dc	pF	ns
CD3600	75	50	0.10	100	2.5	4
CD4150	75	50	0.10	100	2.5	4
CD4153	75*	50	0.05	50	2.0	4

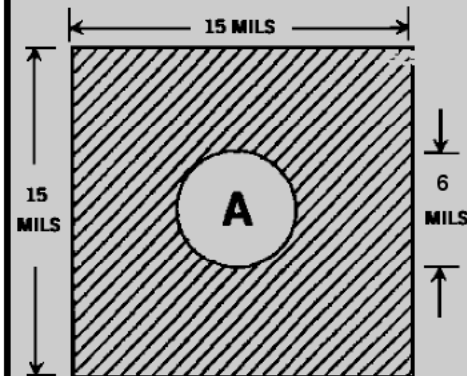
*@5 μ A for CD4153

FORWARD VOLTAGE LIMITS - CD3600 and CD4150

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)
	V dc	V dc	V dc	V dc	V dc
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} $I_F = 100 \mu$ A dc	V_{F2} $I_F = 250 \mu$ A 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
	V dc	V dc	V dc	V dc	V dc	V dc
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



BACKSIDE IS CATHODE

FIGURE 1

DESIGN DATA

METALLIZATION:

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

AL THICKNESS 25,000 Å Min

GOLD THICKNESS 4,000 Å Min

CHIP THICKNESS 10 Mils

TOLERANCES: ALL
Dimensions ± 2 mils



CD4148, CD914, CD3600, CD4150, CD4153 and CD4454

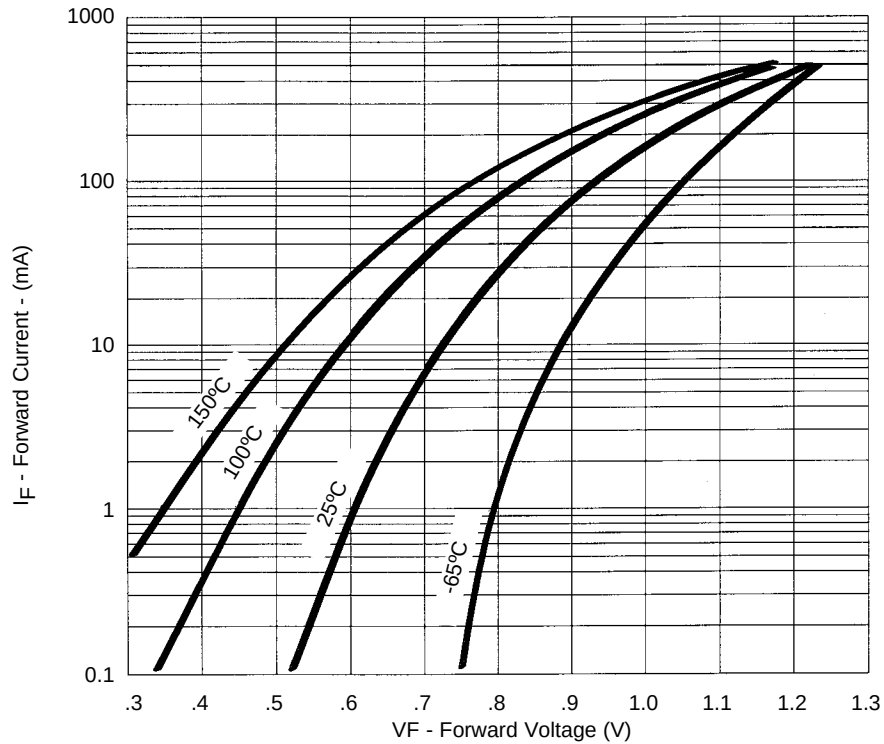
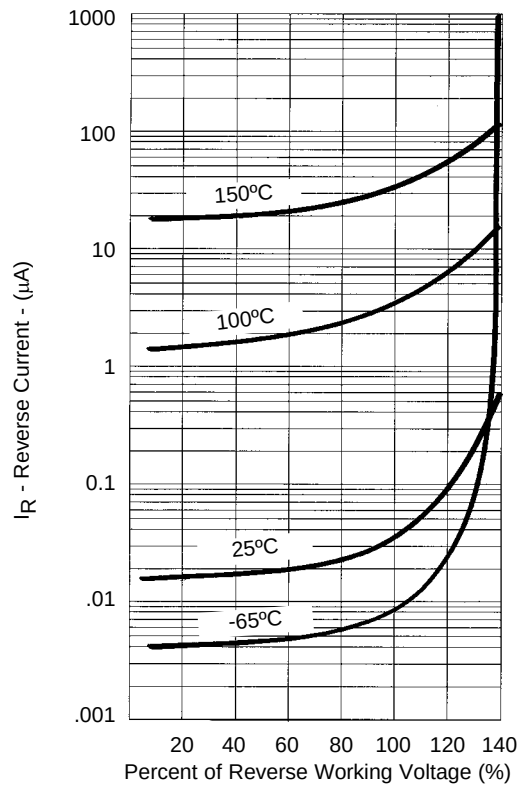


FIGURE 2
Typical Forward Current
vs Forward Voltage



NOTE : All temperatures shown on graphs are junction temperatures

FIGURE 3
Typical Reverse Current
vs Reverse Voltage

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