

- 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 <sub>BR</sub> @100 μA	V <sub>RWM</sub>	I <sub>O</sub>	V <sub>F1</sub> @I <sub>F</sub> = 10mA	V <sub>F2</sub> @I <sub>F</sub> = 50mA	V <sub>F3</sub> @I <sub>F</sub> = 100mA	t <sub>rr</sub>
	Volts (min)	Volts (pk)	mA	V <sub>dc</sub>	V <sub>dc</sub>	V <sub>dc</sub>	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 <sub>R1</sub> @20Vdc	I <sub>R2</sub>	I <sub>R3</sub> @20Vdc T <sub>A</sub> +150°C	I <sub>R4</sub> T <sub>A</sub> +150°C	CAPACITANCE @0V	CAPACITANCE @1.5V
	nA	μA @ V	μA	μA @ 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 <sub>BR</sub> I <sub>R</sub> = 10 μA*	V <sub>RWM</sub>	I <sub>R1</sub> V <sub>R</sub> = 50 Vdc T <sub>A</sub> = 25°C	I <sub>R2</sub> V <sub>R</sub> = 50 Vdc T <sub>A</sub> = 150°C	C V <sub>R</sub> = 0.1 = 1 Mhz; ac signals = 50mV (p-p)	t <sub>rr</sub>
	VOLTS (MIN)	V (pk)	μA dc	μA 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

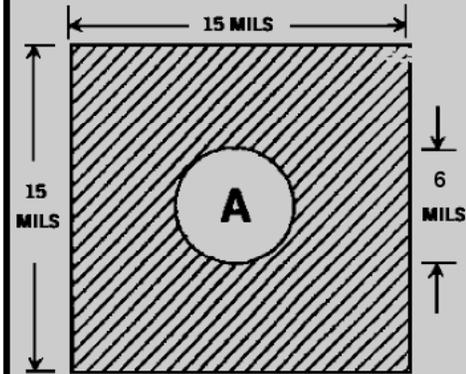
\*@5 μA for CD4153

### FORWARD VOLTAGE LIMITS - CD3600 and CD4150

LIMITS	V <sub>F1</sub> I <sub>F</sub> = 1mA dc	V <sub>F2</sub> I <sub>F</sub> = 10mA dc	V <sub>F3</sub> I <sub>F</sub> = 50mA dc (Pulsed)	V <sub>F4</sub> I <sub>F</sub> = 100mA dc (Pulsed)	V <sub>F5</sub> I <sub>F</sub> = 200mA 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 <sub>F1</sub> I <sub>F</sub> = 100 μA dc	V <sub>F2</sub> I <sub>F</sub> = 250 μA dc	V <sub>F3</sub> I <sub>F</sub> = 1 mA dc	V <sub>F4</sub> I <sub>F</sub> = 2 mA dc	V <sub>F5</sub> I <sub>F</sub> = 10 mA dc	V <sub>F6</sub> I <sub>F</sub> = 20 mA dc
	V dc	V dc	V dc	V dc	V dc	V dc
minimum	0.49	0.63	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

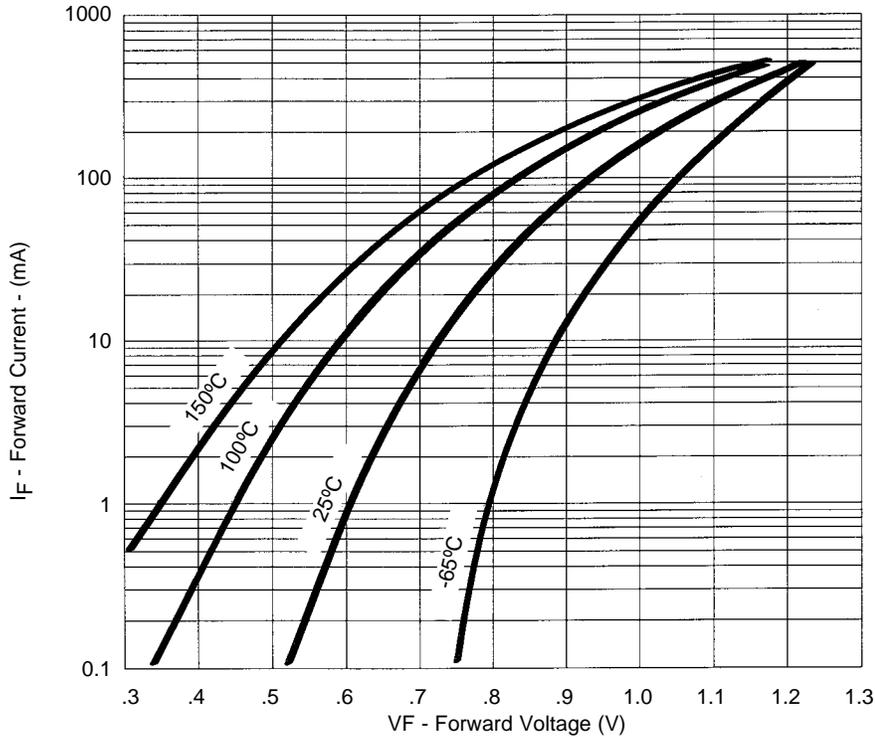
GOLD THICKNESS .....4,000 Å Min

CHIP THICKNESS .....10 Mils

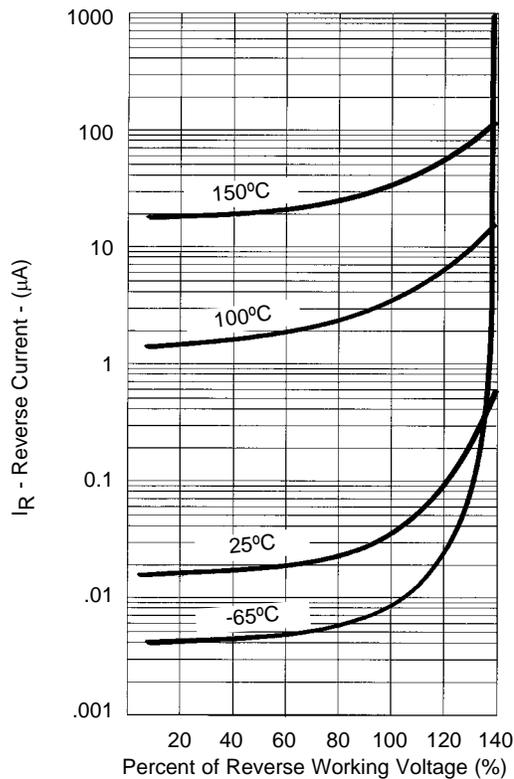
TOLERANCES: ALL  
 Dimensions ± 2 mils



# 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