

Small-Signal Chip Diode

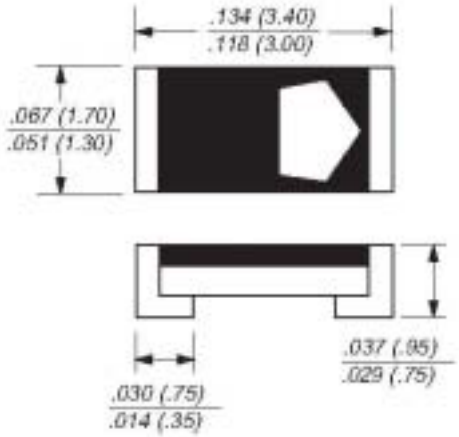
Features

- This diode is also available in other case styles including the 0805 case with the type designation CD4148WSP, and the 0603 case with the type designation CD4148WTP
- Silicon Epitaxial Planar Diode
- Fast switching diode.

Mechanical Data

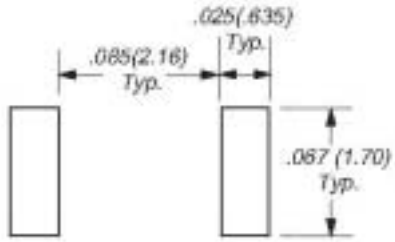
Case: 1206
Weight: approx. 10 mg
Marking: Cathode arrow

1206



Dimensions in inches and (millimeters)

Mounting Pad Layout



Absolute Maximum Ratings & Thermal Characteristics T_{amb} = 25 °C, unless otherwise specified

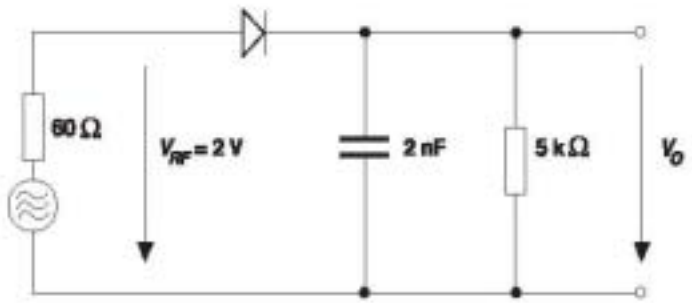
Parameter	Symbol	Value	Unit
Reverse voltage	V_R	75	V
Peak reverse voltage	V_{RM}	100	V
Forward continuous current	I_{FM}	300	mA
Average rectified current sin half wave rectification with resistive load f >= 50 Hz	$I_{F(AV)}$	150 [1]	mA
Surge forward current t < 1 s and T_j = 25 °C	I_{FSM}	500	mA
Power dissipation	P_{tot}	500 [1]	mW
Typical Thermal Resistance Junction to Ambiant Air	R_{thJA}	450 [1]	K/W
Junction temperature	T_j	150	°C
Storage temperature	T_S	- 65 to + 175	°C

1] Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics T_{amb} = 25 °C, unless otherwise specified

Parameter		Symbol	Min	Max	Unit
Forward voltage	I_F = 10 mA	V_F		1.0	V
Leakage current	V_R = 20 V	I_R		25	nA
	V_R = 75 V			5.0	µA
	V_R = 20 V, T_J = 150 °C			50	µA
Capacitance	V_F = V_R = 0 V	C_{tot}		4	pF
Voltage rise when switching ON	tested with 50 mA pulses, t_p = 0.1 s, rise time < 30 ns, f_p = (5 to 100) kHz	V_{fr}		2.5	V
Reverse recovery time	I_F = 10 mA to I_R = 1 mA, V_R = 6 V, R_L = 100 Ω	t_{rr}		4	ns
Rectification efficiency	f = 100 MHz, V_{RF} = 2 V		0.45		

Rectification Efficiency Measurement Circuit



Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

Figure 1. Forward Characteristics

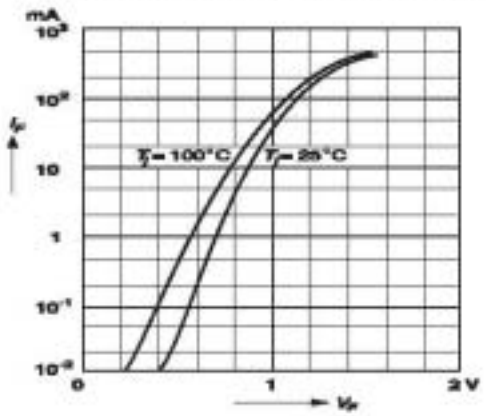


Figure 2. Dynamic Forward Resistance vs. Forward Current

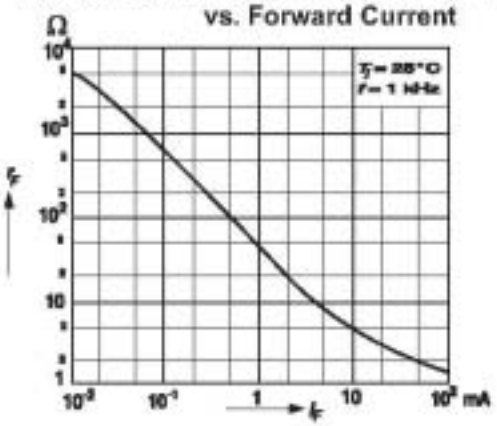


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

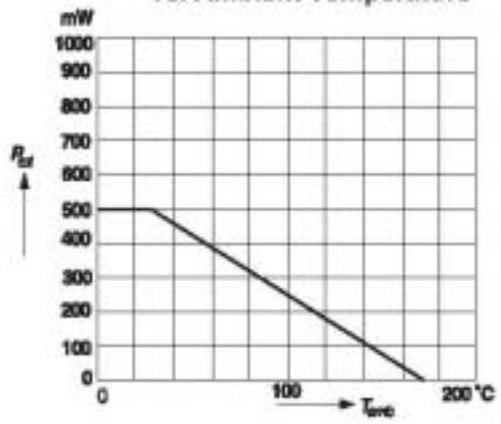


Figure 4. Relative Capacitance vs. Reverse Voltage

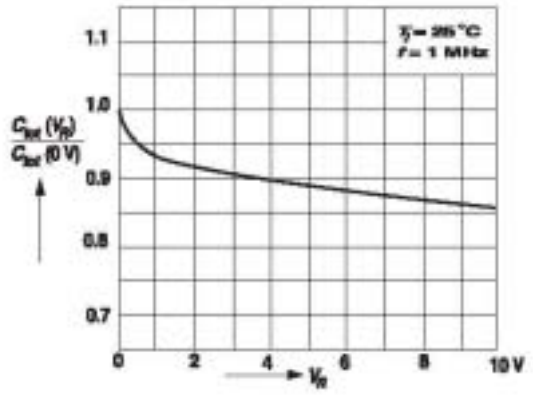


Figure 5. Leakage Current vs. Junction Temperature

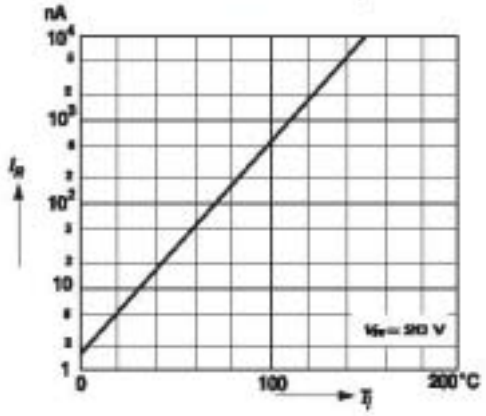


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

