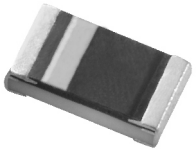
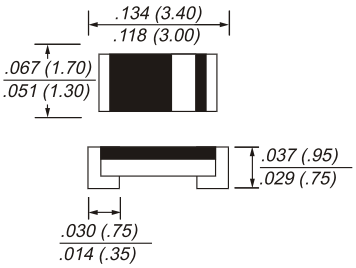
CD4148WP

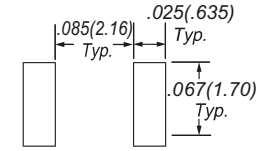
SMALL-SIGNAL CHIP DIODE



1206



Dimensions in inches and (millimeters)



Mounting Pad Layout

FEATURES

- This diode is also available 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. 10mg
Marking：Cathode band

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

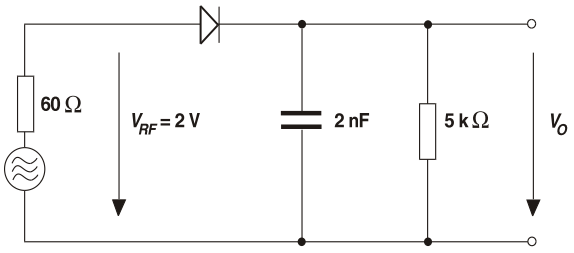
PARAMETER	SYMBOL	VALUE	UNITS
Reverse Voltage	V_R	75	Volts
Peak Reverse Voltage	V_{RM}	100	Volts
Forward Continuous current	I_{FM}	300	mA
Average rectified current sin half wave rectification with resistive load f ＞ =50Hz	$I_{F(AV)}$	150[1)]	mA
Surge Forward Current t＜1s and T_J=25°C	I_{FSM}	500	mA
Power dissipation	P_{tot}	400[1)]	mW
Typical Thermal Resistance Junction to Ambiant Air	$R_{\theta JA}$	375[1)]	K / W
Junction Temperature	T_J	175	°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=10mA	V_F		1.0	V
Leakage current	V_R=20V V_R=75V V_R=20V, T_J=150°C	I_R		25 5.0 50	nA uA uA
Capacitance	V_F=V_R=0V	C_{tot}		4	pF
Voltage rise when switching ON tested with 50mA pulses, tp= 0.1us, rise time < 30ns fp= (5 to 100) KHz		V_{FR}		2.5	V
Reverse recovery time	I_F=10mA to I_R=1mA, V_R=6V, R_L=100Ω	T_{RR}		4	nS
Rectification efficiency	F=100MHz, V_{RF}=2V	η r	45		%

Rectification Efficiency Measurement Circuit



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

Figure 1. Forward Characteristics

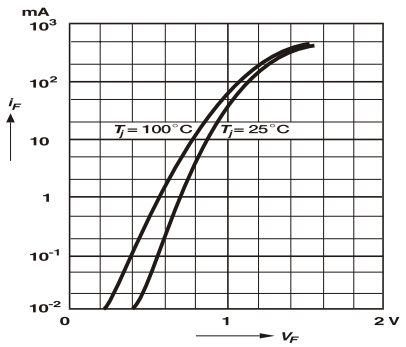


Figure 2. Dynamic Forward Resistance vs. Forward Current

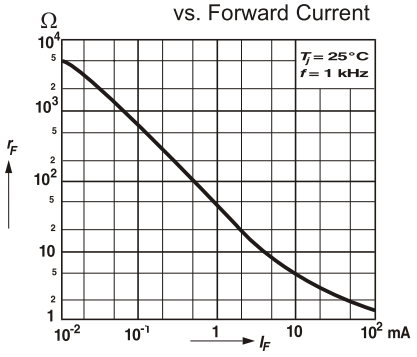


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

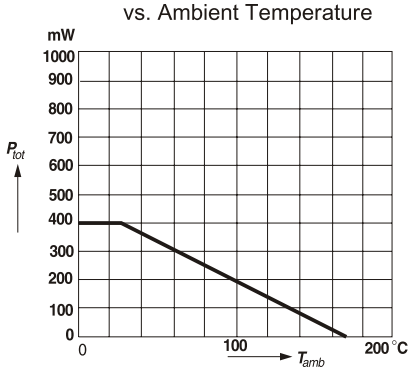


Figure 4. Relative Capacitance vs. Reverse Voltage

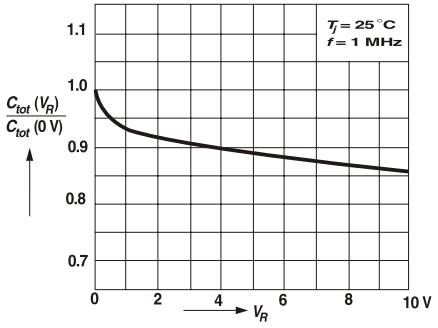


Figure 5. Leakage Current vs. Junction Temperature

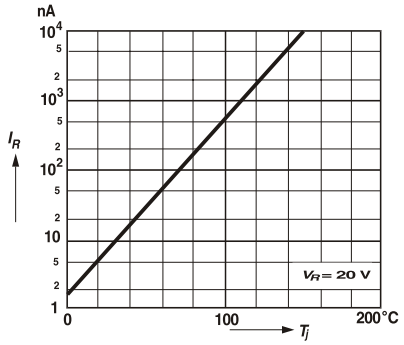


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration