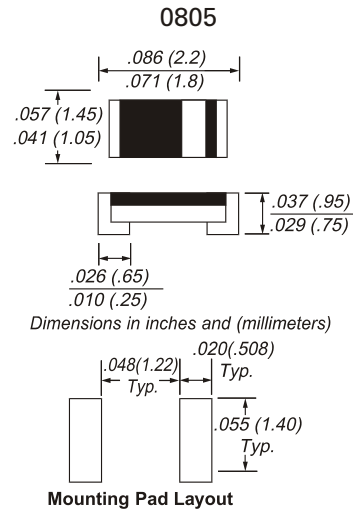
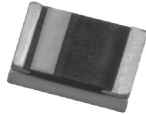


# CD4148WSP

## SMALL-SIGNAL CHIP DIODE



### FEATURES

- This diode is also available other case styles including the 1206 case with the type designation CD4148WP, and the 0603 case with the type Designation CD4148WTP
- Silicon Epitaxial Planar Diode
- Fast switching diode.

### MECHANICAL DATA

Case : 0805  
 Weight : Approx. 6mg  
 Marking : Cathode band

### Absolute Maximum Ratings & Thermal Characteristics $T_{amb}=25^{\circ}\text{C}$ , 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 $f > = 50\text{Hz}$	$I_{F(AV)}$	150 <sup>1)</sup>	mA
Surge Forward Current $t < 1\text{s}$ and $T_J=25^{\circ}\text{C}$	$I_{FSM}$	500	mA
Power dissipation	$P_{tot}$	400 <sup>1)</sup>	mW
Typical Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	375 <sup>1)</sup>	K / W
Junction Temperature	$T_J$	175	$^{\circ}\text{C}$
Storage Temperature	$T_S$	-65 to +175	$^{\circ}\text{C}$

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

### ELECTRICAL CHARACTERISTICS $T_{amb}=25^{\circ}\text{C}$ , unless otherwise specified

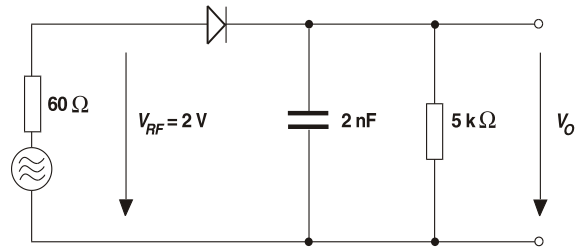
PARAMETER	SYMBOL	Min	Max	UNITS
Forward voltage $I_F = 10\text{mA}$	$V_F$		1.0	V
Leakage current $V_R = 20\text{V}$ $V_R = 75\text{V}$ $V_R = 20\text{V}, T_J = 150^{\circ}\text{C}$	$I_R$		25	nA
			5.0	$\mu\text{A}$
			50	$\mu\text{A}$
Capacitance $V_F = V_R = 0\text{V}$	$C_{tot}$		4	pF
Voltage rise when switching ON tested with 50mA pulses, $t_p = 0.1\mu\text{s}$ , rise time $< 30\text{ns}$ $f_p = (5 \text{ to } 100)\text{KHz}$	$V_{fr}$		2.5	V
Reverse recovery Time $I_F = 10\text{mA}$ to $I_R = 1\text{mA}$ , $V_R = 6\text{V}, R_L = 100\Omega$	$T_{RR}$		4	nS
Rectification efficiency $f = 100\text{MHz}, V_{RF} = 2\text{V}$	$\eta_r$	45		%

# CD4148WSP

## SMALL-SIGNAL CHIP DIODE

Crownpo Technology

### Rectification Efficiency Measurement Circuit



Typical Characteristics ( $T_{amb} = 25^\circ\text{C}$  unless otherwise specified)

Figure 1. Forward Characteristics

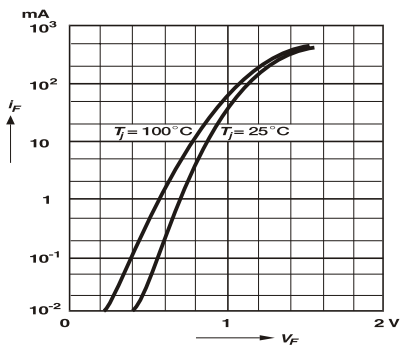


Figure 2. Dynamic Forward Resistance vs. Forward Current

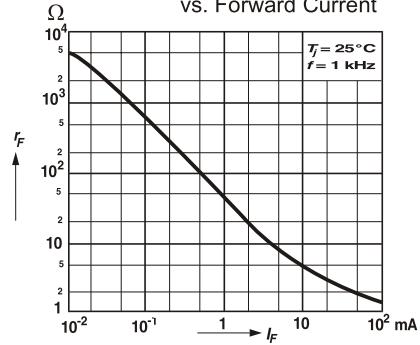


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

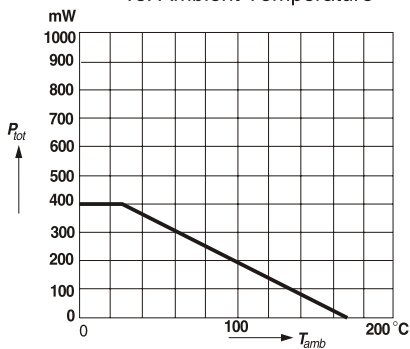


Figure 4. Relative Capacitance vs. Reverse Voltage

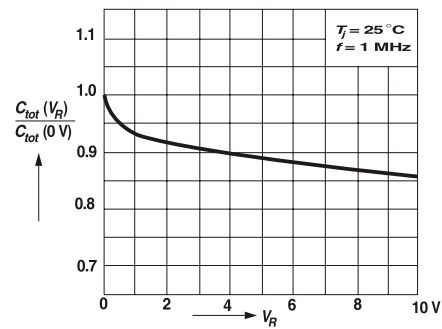


Figure 5. Leakage Current vs. Junction Temperature

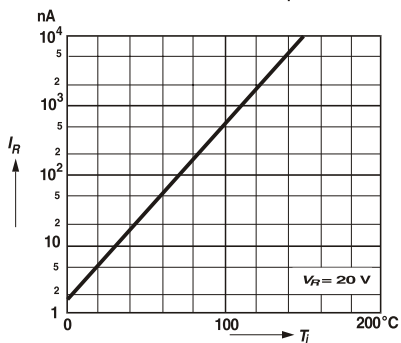


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

