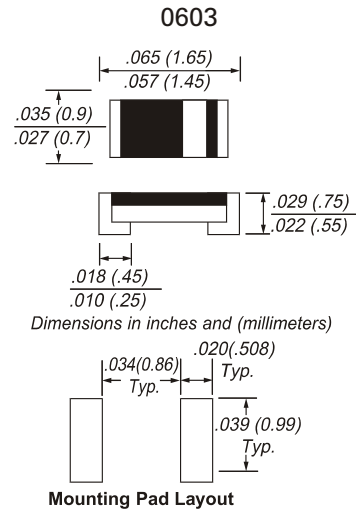
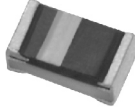


CD4148WTP

SMALL-SIGNAL CHIP DIODE



FEATURES

- This diode is also available other case styles including the 1206 case with the type designation CD4148WP, and the 0805 case with the type Designation CD4148WSP
- Silicon Epitaxial Planar Diode
- Fast switching diode.

MECHANICAL DATA

Case : 0603
Weight : Approx. 4mg
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 ¹⁾	mA
Surge Forward Current $t < 1\text{s}$ and $T_J=25^{\circ}\text{C}$	I_{FSM}	500	mA
Power dissipation	P_{tot}	400 ¹⁾	mW
Typical Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	375 ¹⁾	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

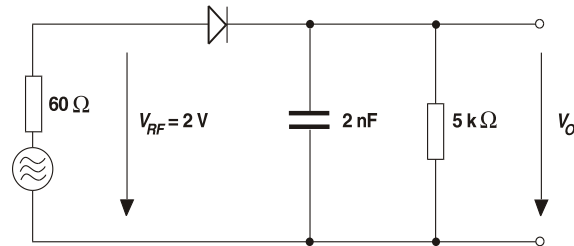
PARAMETER	SYMBOL	Min	Max	UNITS
Forward voltage $I_F = 10\text{mA}$	V_F		1.0	V
Leakage current $V_R = 20\text{V}$ $V_R = 75\text{V}$ $V_R = 20\text{V}, T_J = 150^{\circ}\text{C}$	I_R		25	nA
			5.0	μA
			50	μA
Capacitance $V_F = V_R = 0\text{V}$	C_{tot}		4	pF
Voltage rise when switching ON tested with 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 $f = 100\text{MHz}$, $V_{RF} = 2\text{V}$	η_r	45		%

CD4148WTP

SMALL-SIGNAL CHIP DIODE

Crownpo Technology

Rectification Efficiency Measurement Circuit



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

Figure 1. Forward Characteristics

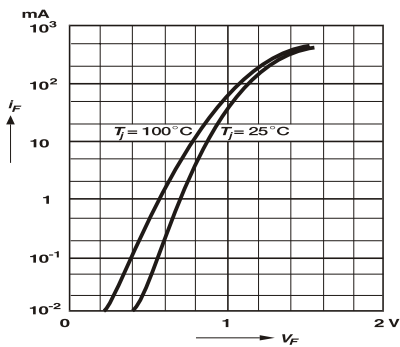


Figure 2. Dynamic Forward Resistance vs. Forward Current

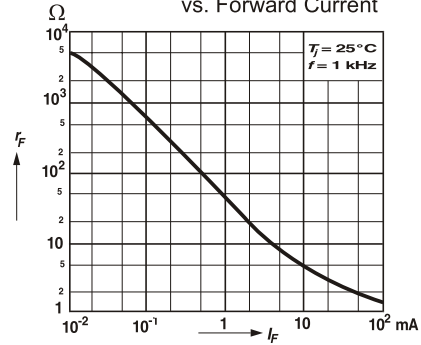


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

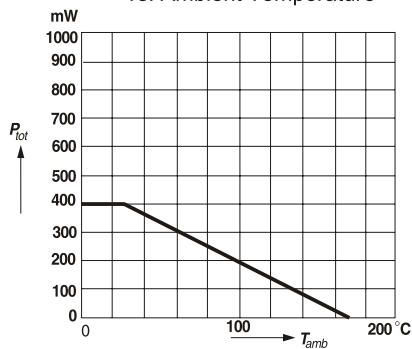


Figure 4. Relative Capacitance vs. Reverse Voltage

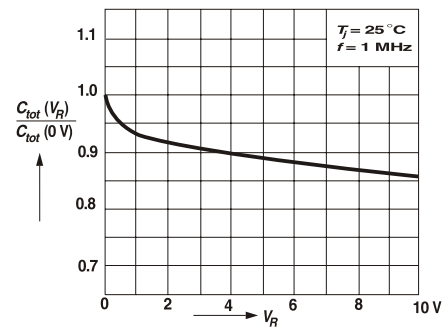


Figure 5. Leakage Current vs. Junction Temperature

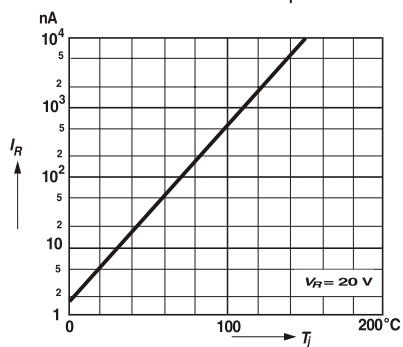


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

