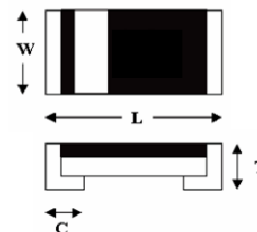


Switching Diode

CD4148WP

FEATURES

- Silicon epitaxial planar diode
- SMD chip pattern, available in various dimension included 0805 & 0603
- Leadfree and RoHS compliance components
- For small signal switching and operating ambient temperature less than 55°C and voltage withstand less than 60V; not suitable for AC switching input as rectified circuit and high reverse voltage location



MECHANICAL CHARACTERISTICS

- Size: 1206
- Weight: approx.10mg
- Marking: Cathode terminal

1206	
L	3.2±0.2 mm
W	1.5±0.2 mm
T	0.85±0.1 mm
C	0.55±0.2 mm

THERMAL CHARACTERISTICS¹⁾

Parameter at $T_{amb}=25^{\circ}\text{C}^{1)}$	Symbol	Value	Unit
Forward Power Dissipation	P_{tot}	400	mW
Power derating above 25°C		3.2	mW/°C
Junction Temperature	T_j	150	°C
Thermal Resistance Junction to Ambient air	$R_{\theta JA}$	375	°C/W
Operating & Storage Temperature range	T_{stg}	-55 to 150	°C

MAXIMUM RATING¹⁾

Parameter at $T_{amb}=25^{\circ}\text{C}^{1)}$	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	75	V
Average rectified current sin half wave rectification with resistive load	$I_{F(AV)}$	150	mA
Repetitive Peak Forward Current at $T_{amb}=25^{\circ}\text{C}$	I_{FRM}	300	mA
Non-Repetitive Surge Forward Current at $t < 1\text{s}$ and $T_j=25^{\circ}\text{C}$	I_{FSM}	500	mA
at $t \leq 3.3\text{ms}$ and $T_j=25^{\circ}\text{C}$		1000	mA

ELECTRICAL CHARACTERISTICS¹⁾

Parameter at $T_{amb}=25^{\circ}\text{C}^{1)}$	Symbol	Value	Unit
Forward Voltage at $I_F=10\text{mA}$	V_F	1.0 MAX	V
at $I_F=100\text{mA}$		1.25 MAX	V
Leakage Current at $V_R=20\text{V}$ Leakage Current at $V_R=75\text{V}$	I_R	0.025 MAX	uA
		5 MAX	uA
Capacitance at $V_R=0\text{V}$, $f=1\text{MHz}$	C_{tot}	4 MAX	pF
Reverse Recovery Time at $I_F=I_R=10\text{mA}$, $R_L=100\Omega$	t_{rr}	4 MAX	ns

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

CD4148WP Typical Characteristics

Figure 1. Forward Characteristic

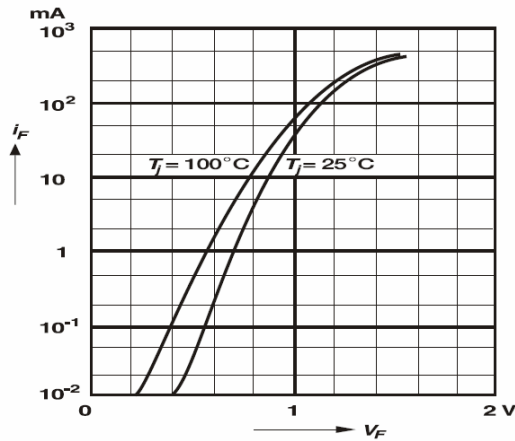


Figure 2. Power De-rating

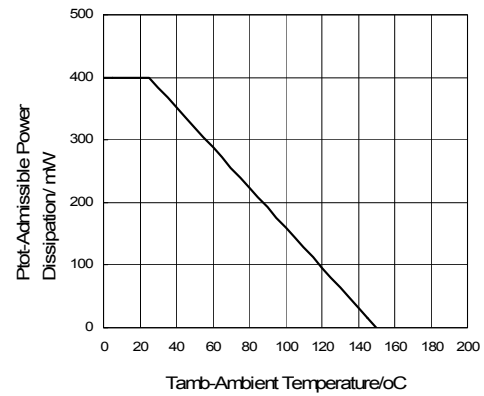


Figure 3. Forward Current De-rating

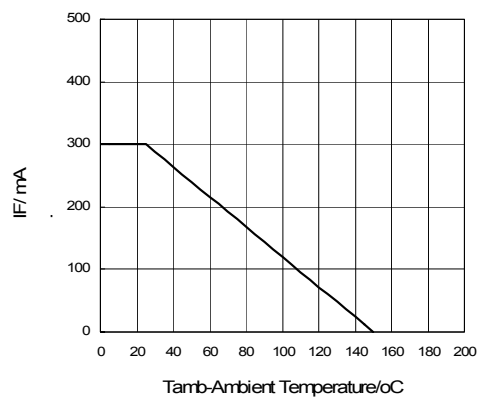


Figure 4. Reverse Voltage De-rating

