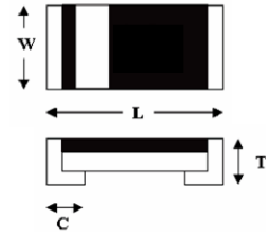


Switching Diode

CD4148WSP

FEATURES

- Silicon epitaxial planar diode
- SMD chip pattern, available in various dimension included 1206 & 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: 0805
- Weight: approx. 6mg
- Marking: Cathode terminal

0805	
L	2.0±0.2 mm
W	1.25±0.2 mm
T	0.85±0.1 mm
C	0.45±0.2 mm

THERMAL CHARACTERISTICS¹⁾

Parameter at T _{amb} =25°C ¹⁾	Symbol	Value	Unit
Forward Power Dissipation	P _{tot}	200	mW
Power derating above 25°C		1.6	mW/°C
Junction Temperature	T _j	150	°C
Thermal Resistance Junction to Ambient air	R _{θJA}	375	°C/W
Operating & Storage Temperature range	T _{stg}	-55 to 150	°C

MAXIMUM RATING¹⁾

Parameter at T _{amb} =25°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°C	I _{FRM}	300	mA
Non-Repetitive Surge Forward Current at t<1s and T _j =25°C at t ≤ 3.3ms and T _j =25°C	I _{FSM}	500	mA
		1000	mA

ELECTRICAL CHARACTERISTICS¹⁾

Parameter at T _{amb} =25°C ¹⁾	Symbol	Value	Unit
Forward Voltage at I _F =10mA at I _F =100mA	V _F	1.0 _{MAX}	V
		1.25 _{MAX}	V
Leakage Current at V _R =20V Leakage Current at V _R =75V	I _R	0.025 _{MAX}	uA
		5 _{MAX}	uA
Capacitance at V _R =0V, f=1MHz	C _{tot}	4 _{MAX}	pF
Reverse Recovery Time at I _F =I _R =10mA, R _L =100Ω	t _{rr}	4 _{MAX}	ns

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

CD4148WSP Typical Characteristics

Figure 1. Forward Characteristic

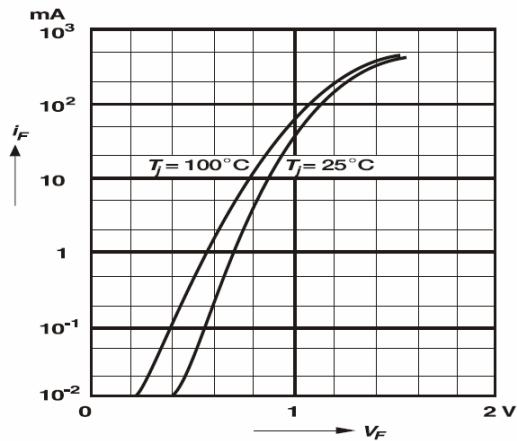


Figure 2. Power De-rating

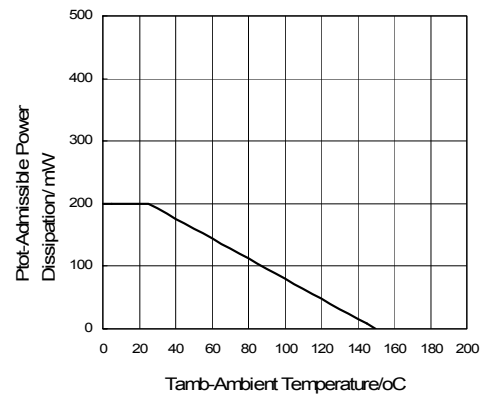


Figure 3. Forward Current De-rating

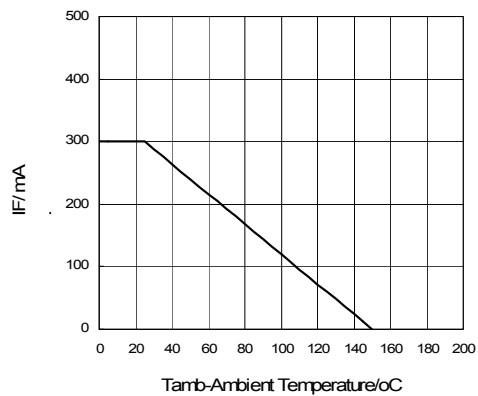


Figure 4. Reverse Voltage De-rating

