



# CM4148WS

## Switching Diode

### FEATURES

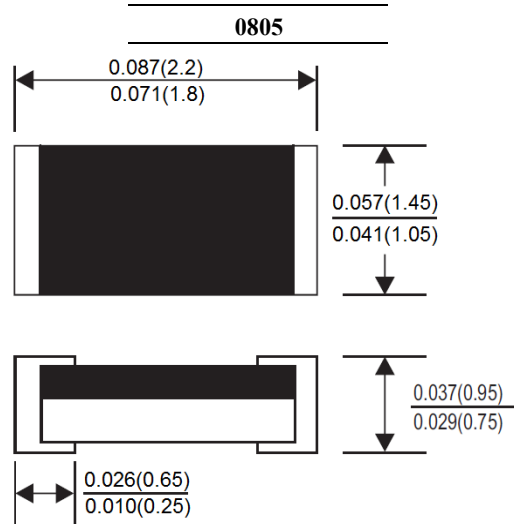
- Silicon epitaxial planar diode
- SMD chip pattern, available in various dimension included 1206 & 0603
- Leadfree and RoHS compliance components
- For small signal switching and operating ambient temperature less than 55 °C and voltage withstand less than 60V; not suitable for AC switching input as rectified circuit and high reverse voltage location. CM4148WSN is suitable for those application
- Suffix "H" indicates Halogen-free parts, ex. CM4148WSN

### Mechanical Data

Case: 0805

Weight: approx. 6mg

Marking: Cathode band



**Dimensions in inches and (millimeter)**

### Thermal Characteristics <sup>1)</sup> @T<sub>A</sub>=25 °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Forward Power Dissipation	P <sub>tot</sub>	200	mW
Power derating above 25°C		1.6	mW/°C
Junction Temperature	T <sub>j</sub>	150	°C
Thermal Resistance Junction to Ambient air	R <sub>θJA</sub>	375	°C/W
Operating & Storage Temperature range	T <sub>stg</sub>	-55 to 150	°C

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.

### Electrical Rating <sup>1)</sup> @T<sub>A</sub>=25 °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	75	V
Average rectified current sin half wave rectification with resistive load	I <sub>F(AV)</sub>	150	mA
Repetitive Peak Forward Current at T <sub>amb</sub> =25°C	I <sub>FRM</sub>	300	mA
Non-Repetitive Surge Forward Current at t<1s and T <sub>j</sub> =25°C at t ≤ 8.3ms and T <sub>j</sub> =25°C	I <sub>FSM</sub>	500	mA
		1000	mA

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.

### Electrical Characteristics <sup>1)</sup> @T<sub>A</sub>=25 °C, unless otherwise specified

Parameter	Symbol	MAX.	Unit
Forward Voltage at I <sub>F</sub> =10mA at I <sub>F</sub> =100mA	V <sub>F</sub>	1.0	V
		1.25	V
Leakage Current at V <sub>R</sub> =20V	I <sub>R</sub>	0.025	μA
Leakage Current at V <sub>R</sub> =75V		5	μA
Capacitance at V <sub>R</sub> =0V, f=1MHz	C <sub>tot</sub>	4	pF
Reverse Recovery Time at I <sub>F</sub> =I <sub>R</sub> =10mA, R <sub>L</sub> =100Ω	t <sub>rr</sub>	4	nS

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.



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Typical Characteristics @  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Figure 1. Forward Characteristic

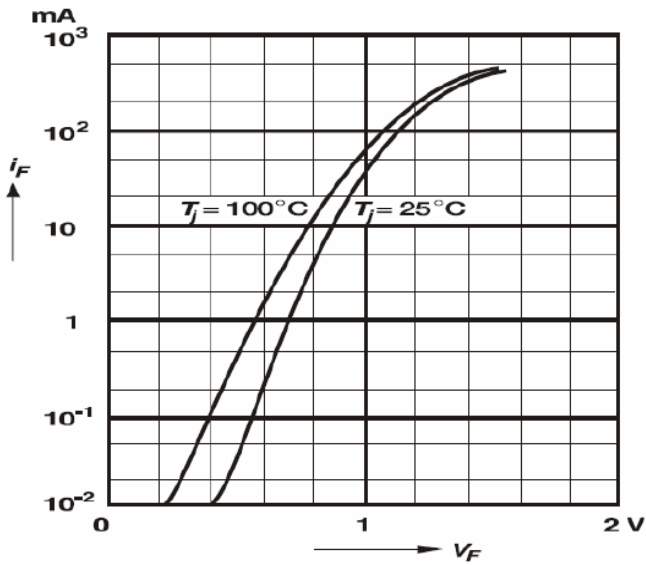


Figure 2. Power De-rating

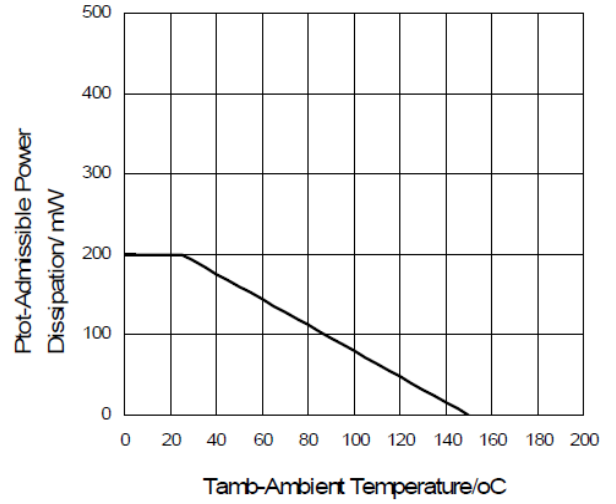


Figure 3. Forward Current De-rating

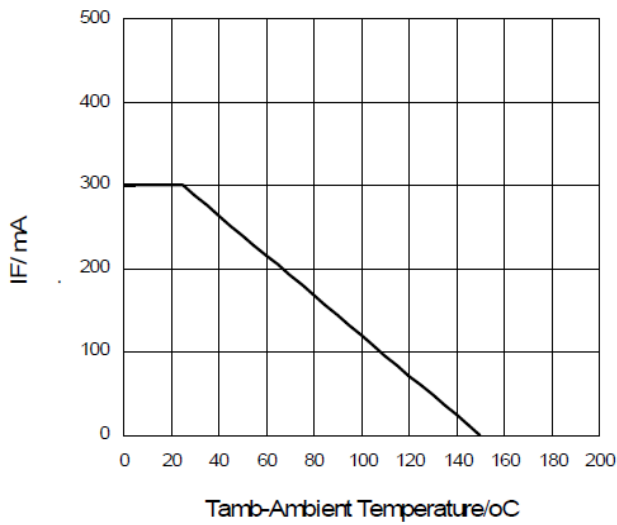


Figure 4. Reverse Voltage De-rating

