

1N4148W

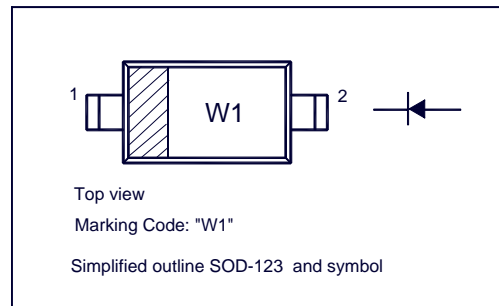
Silicon Epitaxial Planar Small Signal Diode

Features

- SOD123 package
- Fast switching
- These diodes are also available in other case styles including the DO-35 case with the type designation 1N4148, the MiniMELF case with the type designation LL4148 and the MicroMELF case with the type designation MCL4148.

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



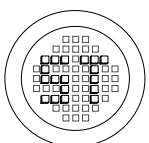
Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Peak reverse voltage	V_{RM}	100	V
Reverse voltage	V_R	75	V
Average rectified current half wave Rectification with resistive load $f \geq 50\text{ Hz}$	$I_{F(AV)}$	150 ¹⁾	mA
Non-repetitive peak forward surge current at $t = 1\text{ }\mu\text{s}$	I_{FSM}	2	A
Power dissipation	P_{tot}	400 ¹⁾	mW
Thermal resistance from junction to ambient air	$R_{\theta JA}$	450 ¹⁾	$^\circ\text{C/W}$
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$

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

Electrical Characteristics ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Min	Max	Unit
Forward voltage at $I_F = 10\text{ mA}$	V_F	-	1	V
Reverse current at $V_R = 20\text{ V}$ $V_R = 75\text{ V}$ $V_R = 20\text{ V}, T_J = 150\text{ }^\circ\text{C}$	I_R	-	25 5 50	nA μA μA
Capacitance at $V_F = V_R = 0\text{ V}$	C_{tot}	-	4	pF
Reverse recovery time at $V_R = 6\text{ V}, I_F = 10\text{ mA}, R_L = 100\text{ }\Omega, I_R = 1\text{ mA}$	t_{rr}	-	4	ns
Voltage rise when switching ON (tested with 50 mA pulse) $t_p = 0.1\text{ }\mu\text{s}$, rise time < 30 ns, $f_p = (5\text{ to }100)\text{ KHz}$	V_{fr}	-	2.5	V
Rectification efficiency $f = 100\text{ MHz}, V_{RF} = 2\text{ V}$	η_v	0.45	-	-

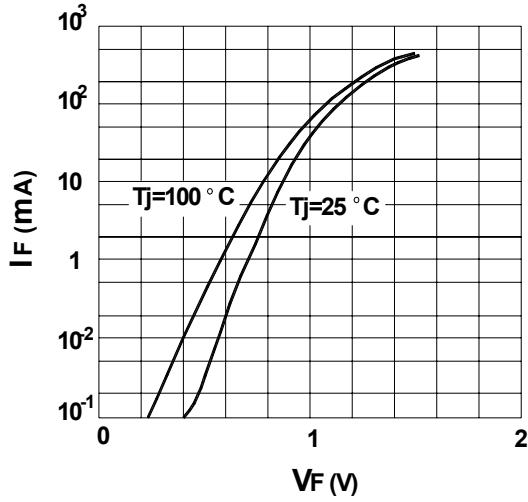


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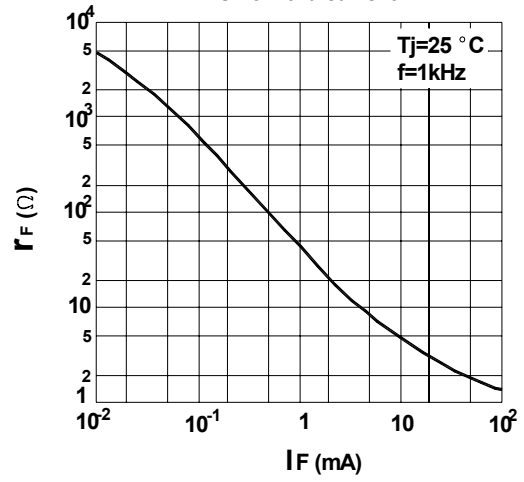
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Тел.: (495) 795-0805
Факс: (495) 234-1603
Эл. почта: info@rct.ru
Веб: www.rct.ru

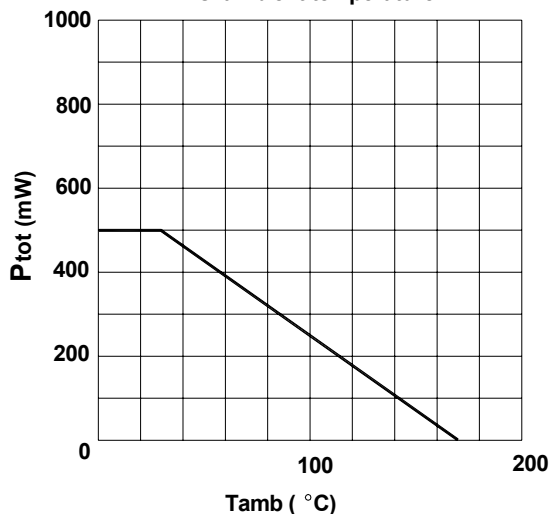
Forward characteristics



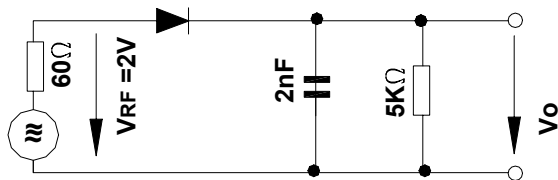
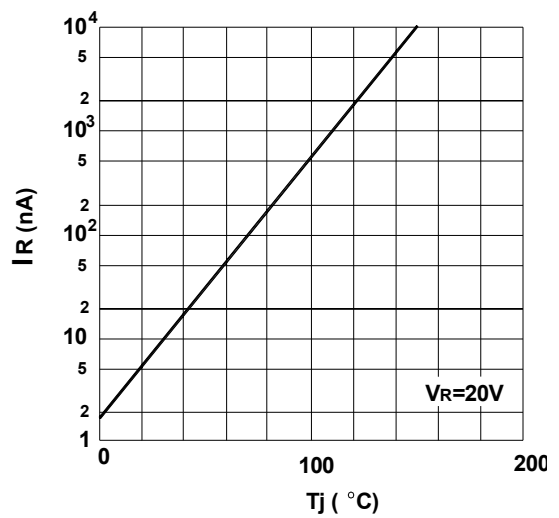
Dynamic forward resistance vs. forward current



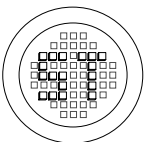
Ammissible power dissipation vs. ambient temperature



Leakage current vs. junction temperature



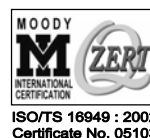
Rectification Efficiency Measurement Circuit



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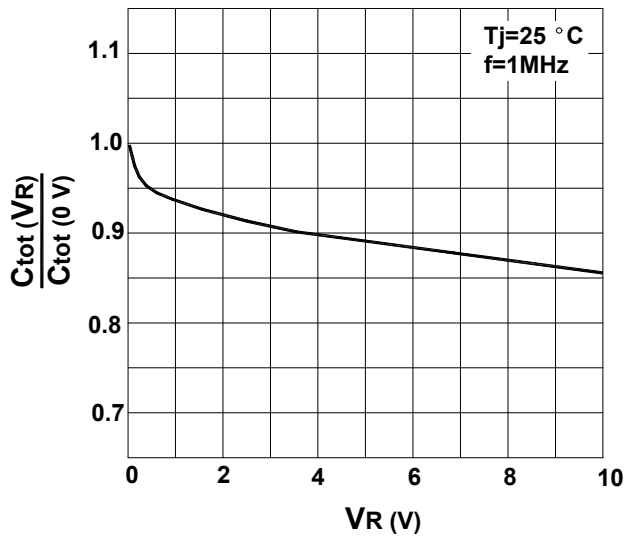
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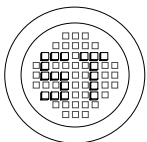
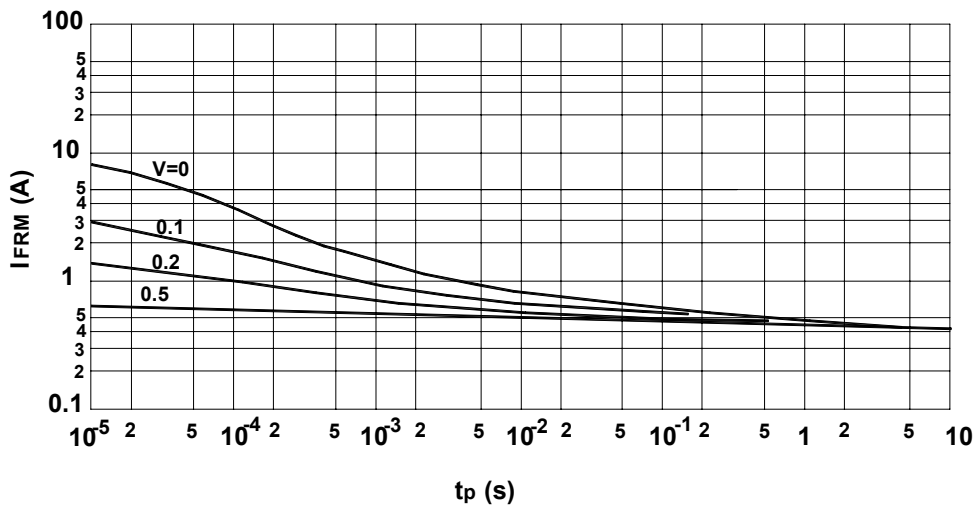


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Reverse capacitance vs. reverse voltage



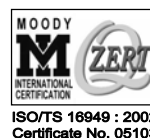
Ammissible repetitive peak forward current vs. pulse duration



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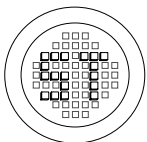
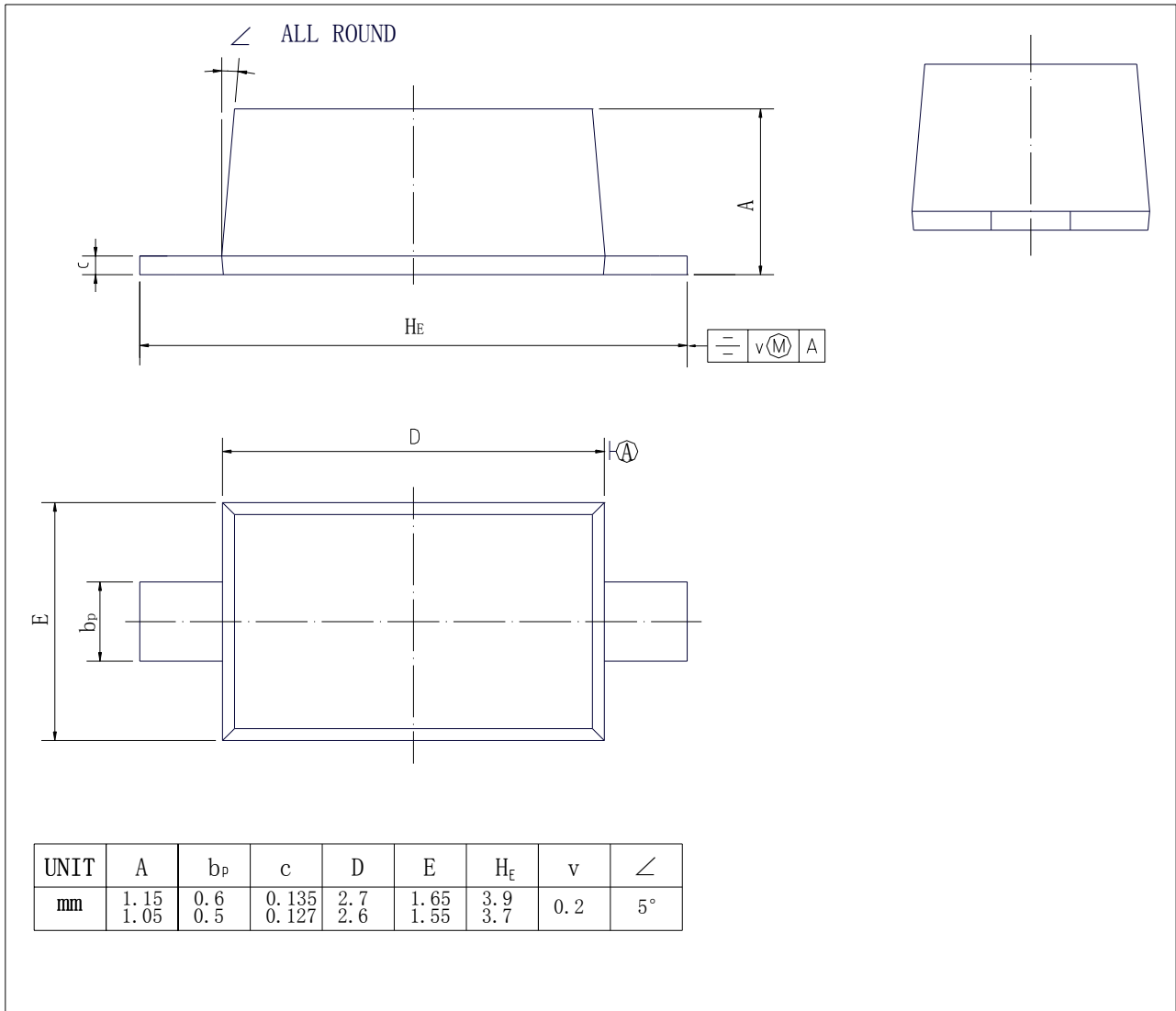
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Silicon Epitaxial Planar Small Signal Diodes

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

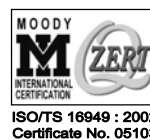
SOD-123



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