

MMSD4148, SMMSD4148

スイッチング ダイオード

特長

- SOD-123面実装パッケージ
- 高耐圧
- 高速スイッチングタイム
- Sで始まる製品番号は特有の工場および変更管理を必要とする車載およびその他の用途に対応; AEC-Q101認定, PPAP対応可*
- 鉛フリー、ハロゲンフリーおよびBFRフリー対応、RoHS準拠

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	100	V
Forward Current	I_F	200	mA
Forward Surge Current (Note 1)	I_{FSM}	1.0 2.0	A
Repetitive Peak Forward Current (Pulse Wave = 1 sec, Duty Cycle = 66%)	I_{FRM}	0.5	A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

(参考訳)

最大定格を超えるストレスは、デバイスにダメージを与える危険性があります。これらの定格値を超えた場合は、デバイスの機能性を損ない、ダメージが生じたり、信頼性に影響を及ぼす危険性があります。

1. Typical Values

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 2) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	425 3.4	mW mW/°C
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	290	°C/W

2. FR-5 = 1.0 oz Cu, 1.0 in² pad

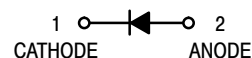


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SOD-123
CASE 425
STYLE 1



MARKING DIAGRAM



5I = Device Code
M = Date Code
▪ = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
MMSD4148T1G	SOD-123 (Pb-Free)	3,000 / Tape & Reel
SMMSD4148T1G*	SOD-123 (Pb-Free)	3,000 / Tape & Reel
MMSD4148T3G	SOD-123 (Pb-Free)	10,000 / Tape & Reel
SMMSD4148T3G*	SOD-123 (Pb-Free)	10,000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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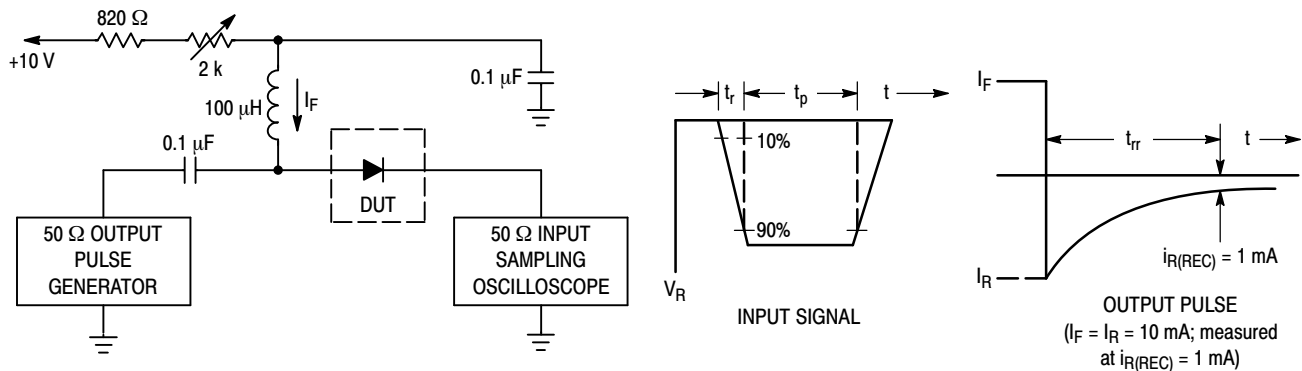
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Breakdown Voltage ($I_{BR} = 100 \mu\text{A}$)	$V_{(BR)}$	100	–	V
Reverse Voltage Leakage Current ($V_R = 20 \text{ V}$) ($V_R = 75 \text{ V}$)	I_R	– –	25 5.0	nA μA
Forward Voltage ($I_F = 10 \text{ mA}$)	V_F	–	1000	mV
Diode Capacitance ($V_R = 0 \text{ V}$, $f = 1.0 \text{ MHz}$)	C_D	–	4.0	pF
Reverse Recovery Time ($I_F = I_R = 10 \text{ mA}$) (Figure 1)	t_{rr}	–	4.0	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

(参考訳)

製品パラメータは、特別な記述が無い限り、記載されたテスト条件に対する電気的特性で示しています。異なる条件下で製品動作を行った時には、電気的特性で示している特性を得られない場合があります。



1. A 2.0 k Ω variable resistor adjusted for a Forward Current (I_F) of 10 mA.
2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 10 mA.
3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

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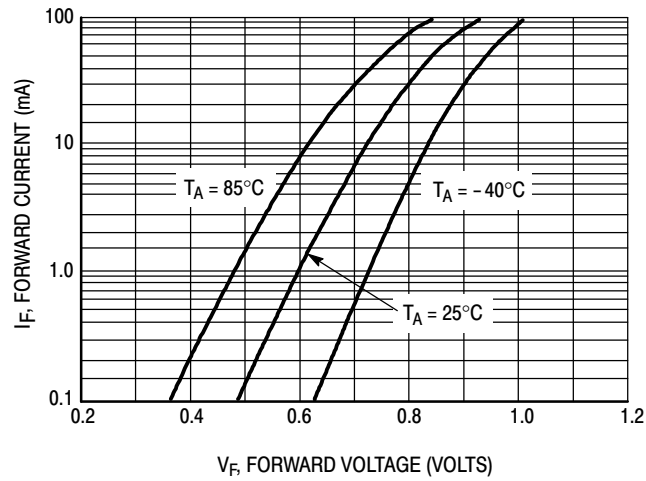


Figure 2. Forward Voltage

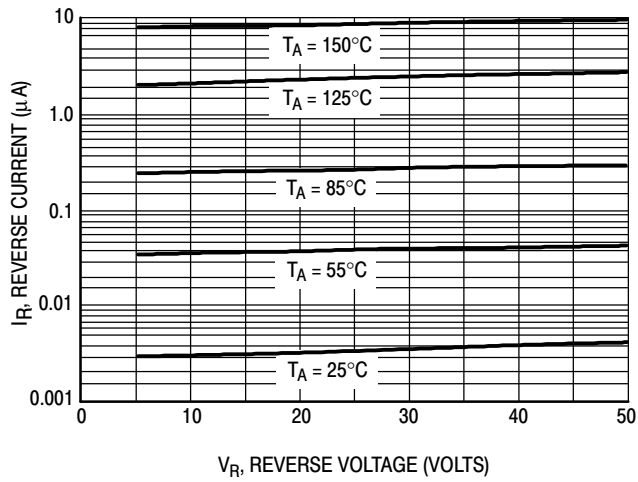


Figure 3. Leakage Current

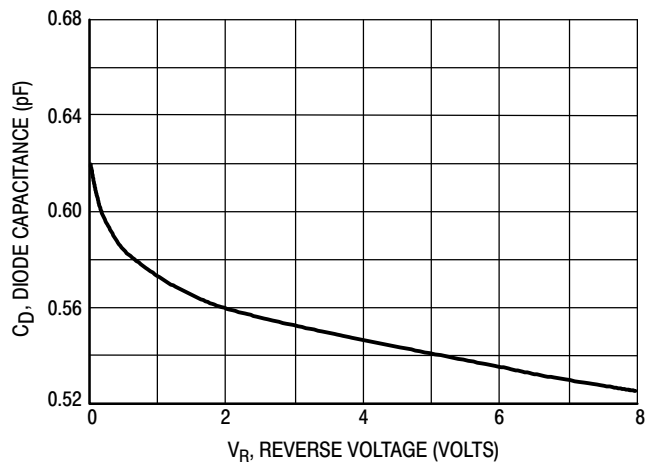
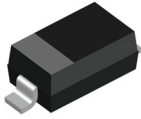


Figure 4. Capacitance

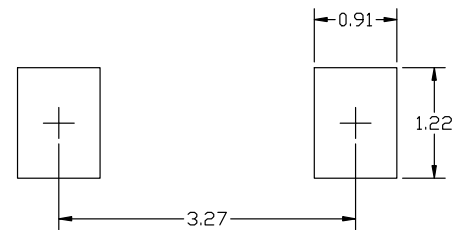
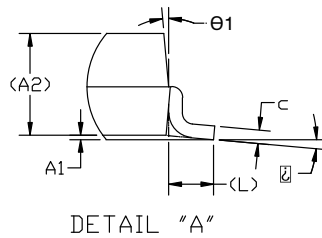
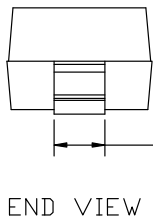
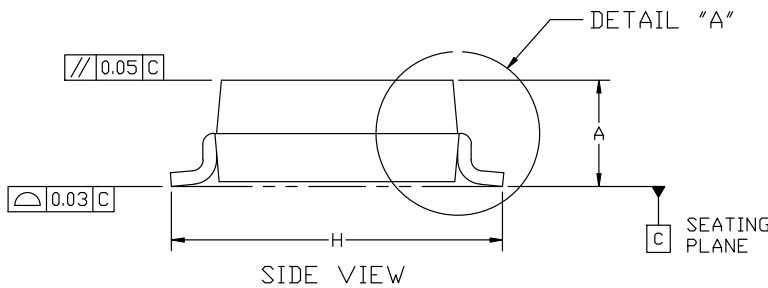
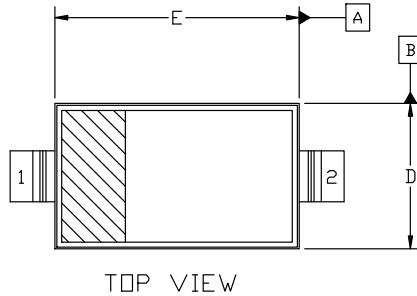
MECHANICAL CASE OUTLINE

PACKAGE DIMENSIONS



SOD-123 2L 1.60x2.69x1.16
CASE 425
ISSUE H

DATE 29 FEB 2024



NOTES:

1. DIMENSION AND TOLERANCING PER ASME Y14.5M, 2018
2. CONTROLLING DIMENSION: MILLIMETERS

DIM	MILLIMETER		
	MIN.	NOM.	MAX.
A	0.94	1.17	1.35
A1	0.00	0.05	0.10
A2	1.16 REF.		
b	0.51	0.61	0.71
c	-	-	0.15
D	1.40	1.60	1.80
E	2.54	2.69	2.84
H	3.56	3.68	3.86
L	0.25 REF.		
∠	0°		10°
θ1	0°		10°

GENERIC MARKING DIAGRAM*



XXX = Specific Device Code
M = Date Code
▪ = Pb-Free Package

(Note: Microdot may be in either location)

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.

STYLE 1:
PIN 1. CATHODE
2. ANODE

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