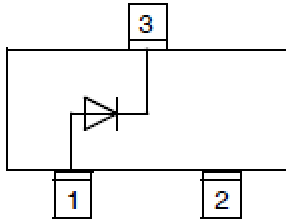


High Speed Switching Diode



SOT-23

Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- V_R 100V
- I_{FAV} 200mA
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

- Extreme fast switches
- Automotive

Mechanical Data

- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:** KA2

■ Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Reverse Voltage	V_R	V		100
Average Forward Current	I_{FAV}	mA		200
Repetitive Peak Forward Current	I_{FRM}	mA		300
Peak Forward Surge Current	I_{FSM}	A	Pulse width=1 us Pulse width=1 s	2 1
Power Dissipation	P_{tot}	mW		350
Thermal Resistance Junction to Ambient	R_{thJA}	K/W		357
Junction Temperature	T_j	$^\circ\text{C}$		-55 to +150
Storage Temperature Range	T_{stg}	$^\circ\text{C}$		-55 to +150

MMBD4148Q

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	MAX
Forward Voltage	V _F	V	I _F =1mA		0.715
			I _F =10mA		0.855
			I _F =50mA		1.0
			I _F =100mA		1.2
Reverse Current	I _R	nA	V _R =20V		25
		μA	V _R =75V		5
Breakdown Voltage	V _R	V	I _R =100μA	100	
Junction Capacitance	C _j	pF	V _R =V _F =0V, f = 1MHz		4
Reverse Recovery Time	t _{rr}	ns	I _F =10mA, I _{rr} =1mA, V _R =6V, R _L =100Ω		4

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBD4148Q	F2	Approximate 0.010	3000	30000	120000	7" reel

MMBD4148Q

■ Characteristics (Typical)

Fig.1: P_D - T_A

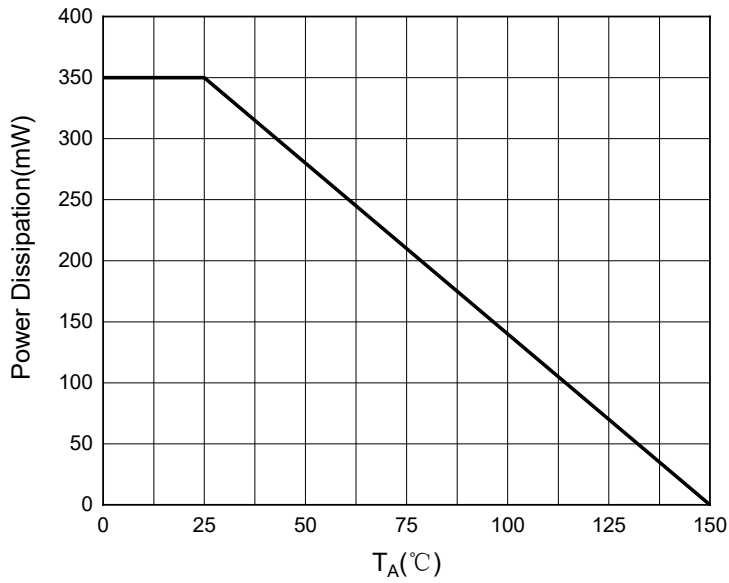


Fig.2: Capacitance Characteristics

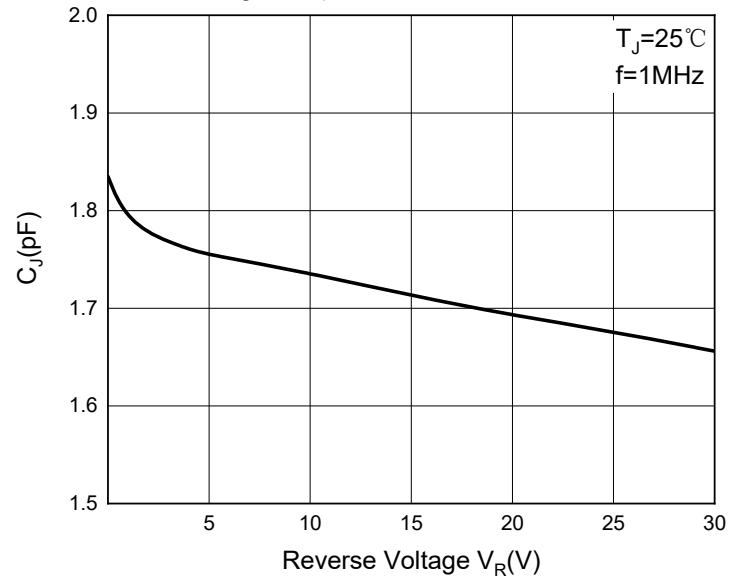


Fig.3: Forward Characteristics

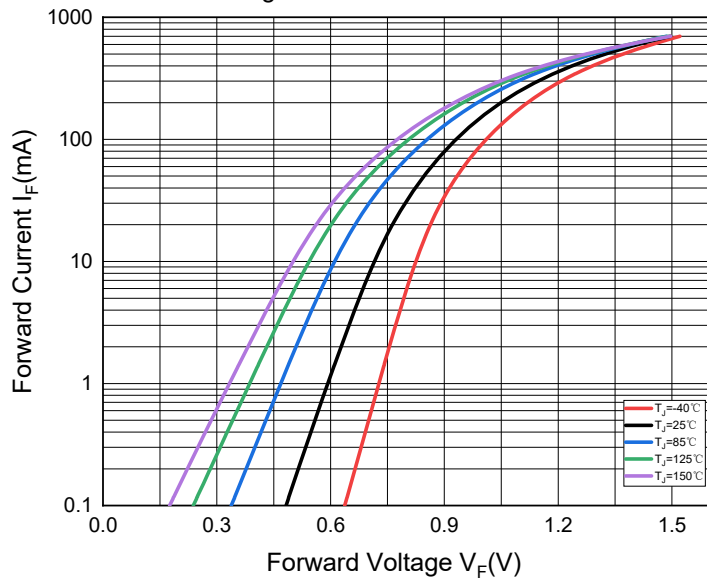
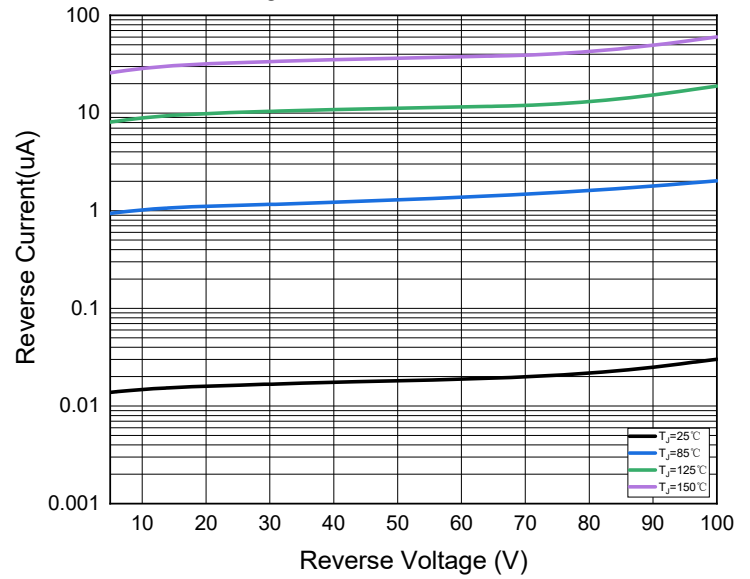
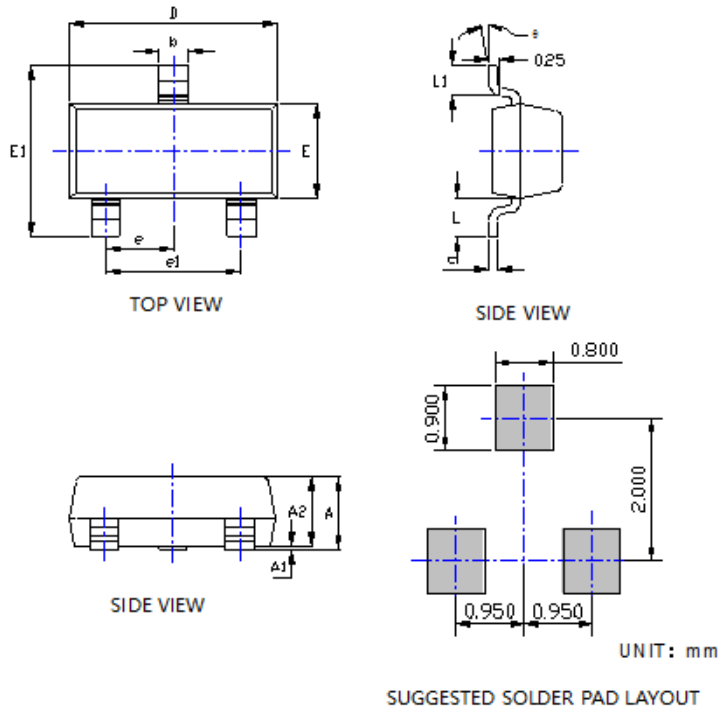


Fig.4: Reverse Characteristics



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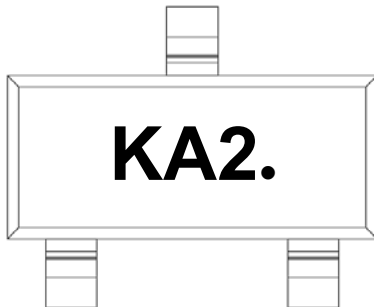
■ Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

NOTE:
 1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
 2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
 3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

■ Marking Information



Note:
 1. All marking is at middle of the product body
 2. All marking is in laser marking
 3. Body color: Black

MMBD4148Q

Disclaimer

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