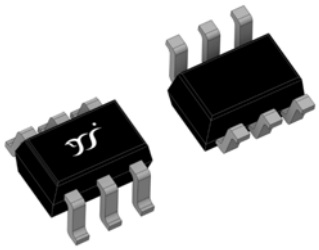
High Speed Switching Diodes



SOT-363

Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- V_{BR} 80V
- I_{FAV} 250mA@ Single diode loaded
- Part no. with suffix “Q” means AEC-Q101 qualified

Applications

- Extreme fast switches
- Automotive

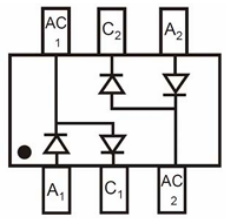
Mechanical Data

- **Case**: SOT-363
- **Terminals**: Tin plated leads, solderable per, J-STD-002 and JESD22-B102

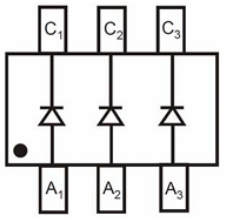
Marking

MMBD4448HSDWQ	KAB
MMBD4448HTWQ	KAA

■ Equivalent circuit



MMBD4448HSDWQ



MMBD4448HTWQ

■ Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Reverse Breakdown Voltage	V_{BR}	V		80
Maximum RMS voltage	V_{RMS}	V		57
Average Forward Current	$I_{FAV[1]}$	mA		250
Non-Repetitive Peak Forward Surge Current	I_{FSM}	A	t_p=1.0 us	4
Power Dissipation	$P_{tot[1]}$	mW		200
Thermal Resistance Junction to Ambient	R_{thJA}	℃/W		625
Maximum Junction Temperature	T_j	℃		-55 to +150
Storage Temperature Range	T_{stg}	℃		-55 to +150

[1] Device mounted on a FR4 PCB with recommended pad layout.

■ Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBD4448HSDWQ/ MMBD4448HTWQ	Approximate 0.009	3000	30000	120000	7” reel

■ Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Forward Voltage	V_F	V	I_F=5mA			0.720
			I_F=10mA			0.855
			I_F=50mA			1.000
			I_F=150mA			1.250
Reverse Current	I_R	nA	V_R=20V			25
			V_R=70V			100
Reverse Breakdown Voltage	V_{BR}	V	I_R=100μA	80		
Junction Capacitance	C_j	pF	V_R=V_F=0V, f =1MHz		2	
Reverse Recovery Time	t_{rr}	ns	I_F=10mA,Irr=0.1I_R,R_L=100Ω		4	

■ Characteristics (Typical)

Fig.1: P_D-T_A

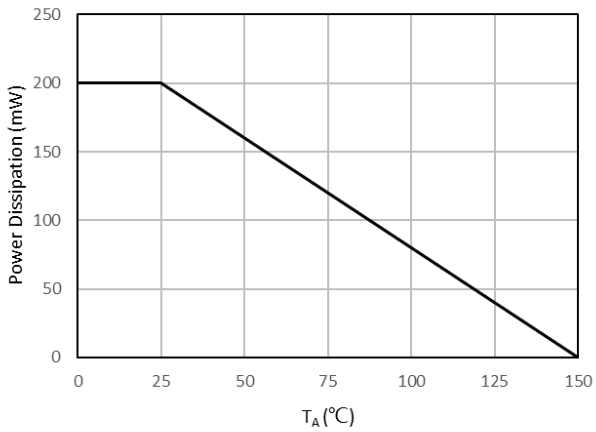


Fig.2: Capacitance Characteristics

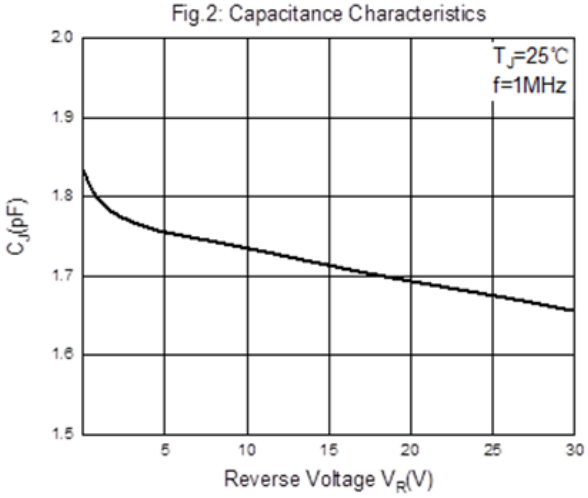


Fig3: Forward Characteristics

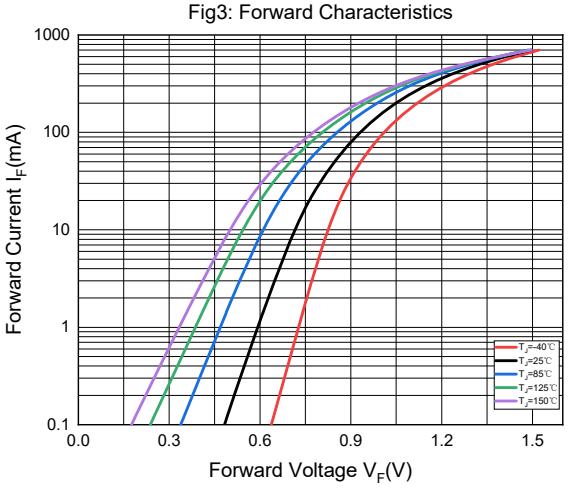
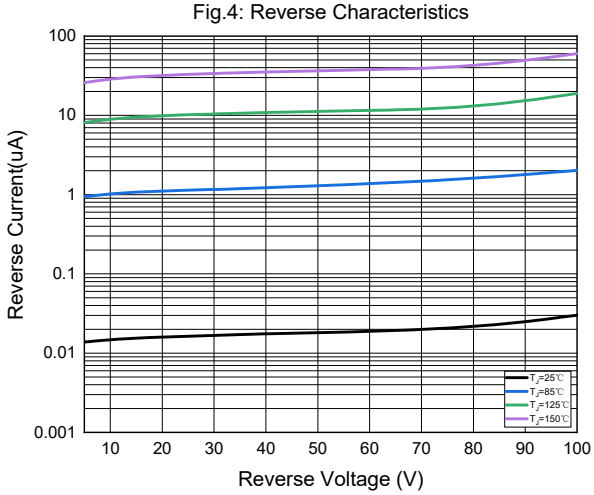
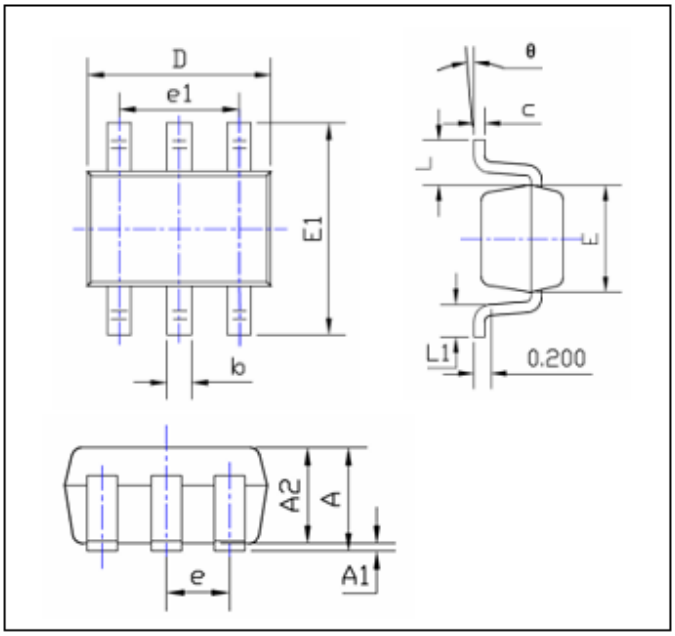


Fig.4: Reverse Characteristics



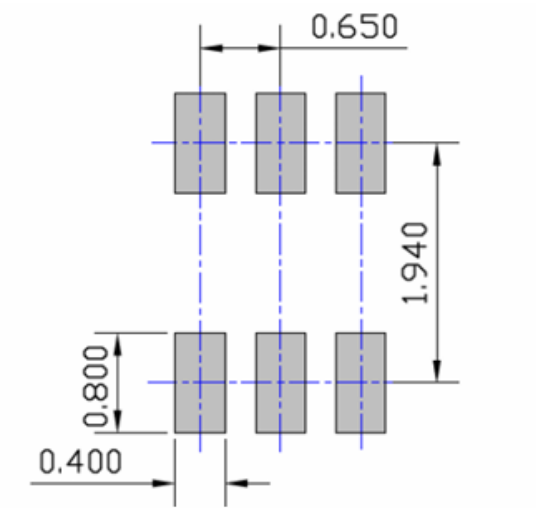
■ Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.014	0.150	0.350
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
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.

■ Suggested Pad Layout



Unit：mm

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