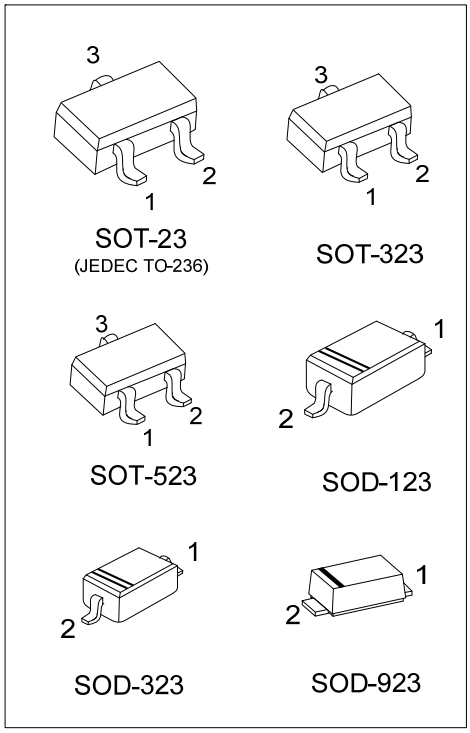
MMBD4148

DIODE

HIGH-SPEED SWITCHING DIODE



■ DESCRIPTION

The UTC **MMBD4148** is designed for high-speed switching application in hybrid thick-and thin-film circuits. The devices is manufactured by the silicon epitaial planar process and packed in plastic surface mount package.

■ FEATURES

* Ultra-high speed
* Low forward voltage
* Fast reverse recovery time

■ ORDERING INFORMATION

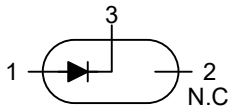
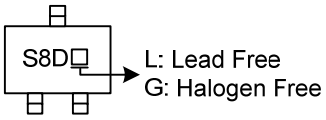
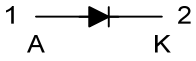
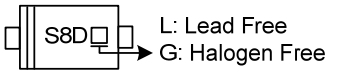
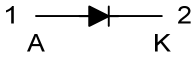
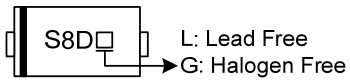
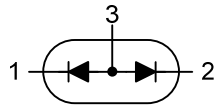
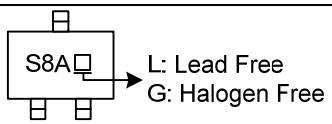
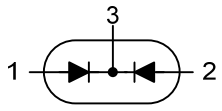
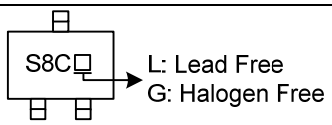
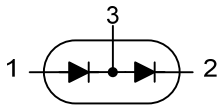
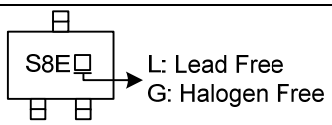
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MMBD4148L-AE3-R	MMBD4148G-AE3-R	SOT-23	A	NC	K	Tape Reel
MMBD4148L-AL3-R	MMBD4148G-AL3-R	SOT-323	A	NC	K	Tape Reel
MMBD4148L-AN3-R	MMBD4148G-AN3-R	SOT-523	A	NC	K	Tape Reel
MMBD4148L-CA2-R	MMBD4148G-CA2-R	SOD-123	A	K	-	Tape Reel
MMBD4148L-CB2-R	MMBD4148G-CB2-R	SOD-323	A	K	-	Tape Reel
MMBD4148L-CF2-R	MMBD4148G-CF2-R	SOD-923	A	K	-	Tape Reel
MMBD4148CAL-AE3-R	MMBD4148CAG-AE3-R	SOT-23	K2	K1	A2A1	Tape Reel
MMBD4148CCL-AE3-R	MMBD4148CCG-AE3-R	SOT-23	A2	A1	K2K1	Tape Reel
MMBD4148SEL-AE3-R	MMBD4148SEG-AE3-R	SOT-23	A2	K1	K2A1	Tape Reel

Note: Pin assignment: A: Anode K: Cathode NC: No Connection

MMBD4148G-AE3-R
(1)Packing Type
(2)Package Type
(3)Green Package

(1) R: Tape Reel
(2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523
CA2: SOD-123, CB2: SOD-323
(3) G: Halogen Free and Lead Free, L: Lead Free

■ DIODE CONFIGURATION, SYMBOL AND MARKING

PRODUCT NAME	PACKAGE	SYMBOL	MARKING
MMBD4148	SOT-23 SOT-323 SOT-523		
	SOD-123 SOD-323		
	SOD-923		
MMBD4148CA	SOT-23		
MMBD4148CC			
MMBD4148SE			

■ ABSOLUTE MAIMUM RATINGS (T_A=25℃, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Maimum Repetitive Reverse Voltage		V_{RRM}	100	V
Average Rectified Forward Current		$I_{F(AV)}$	250	mA
Non-repetitive Peak Forward Surge Current	Pulse Width = 1.0 sec	I_{FSM}	1.0	A
	Pulse Width = 1.0 μs		2.0	A
Power Dissipation (Note 3)	SOT-23	P_D	350	mW
	SOT-323		270	mW
	SOT-523		220	mW
	SOD-123		400	mW
	SOD-323		250	mW
	SOD-923		100	mW
Junction Temperature		T_J	-65 ~ +150	°C
Storage Temperature		T_{STG}	-65 ~ +150	°C

Notes: 1. Absolute maimum ratings are those values beyond which the device could be permanently damaged. Absolute maimum ratings are stress ratings only and functional device operation is not implied.
2. These ratings are based on a maimum junction temperature of 200°C.
3. Device mounted on FR-4 PCB minimum land pad.

■ THERMAL DATA

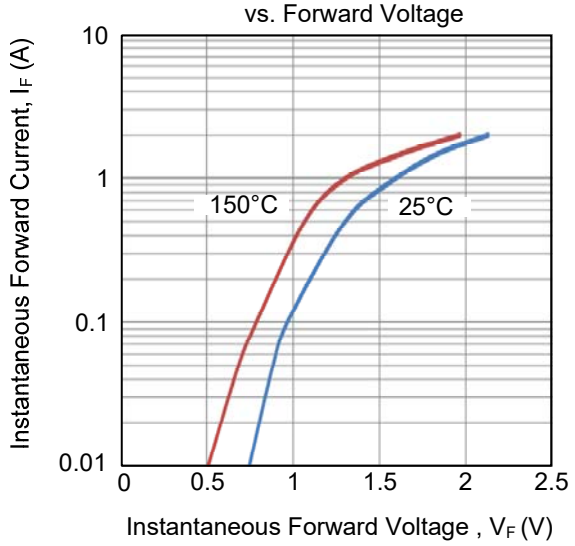
CHARACTERISTIC		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-23	θ_{JA}	357	°C/W
	SOT-323		460	°C/W
	SOT-523		550	°C/W
	SOD-123		312	°C/W
	SOD-323		500	°C/W
	SOD-923		1250	°C/W

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

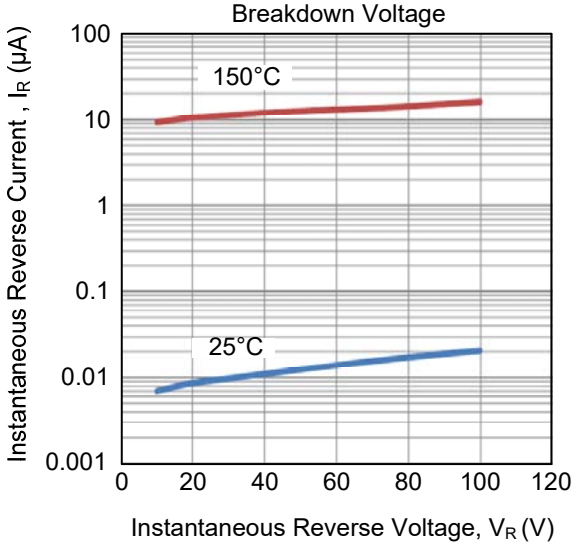
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MA	UNIT
Breakdown Voltage	V_R	I_R=5.0μA	75			V
		I_R=100μA	100			V
Forward Voltage	V_F	I_F=10mA			0.855	V
Reverse Current	I_R	V_R=20V			25	nA
		V_R=75V			5.0	μA
Total Capacitance	C_T	V_R=0V, f =1.0MHz		4.0		pF

■ TYPICAL CHARACTERISTICS

Average Rectified Forward Current vs. Forward Voltage



Reverse Current Vs. Reverse Breakdown Voltage



Average Rectified Current vs. Junction Temperature