



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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350mW, SMD Switching Diode

FEATURES

- Designed for mounting on small surface
- Low Capacitance
- Low forward voltage drop
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: SOT-23
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 8 mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	200	mA
V_{RRM}	100	V
I_{FSM}	2	A
V_F at $I_F=10mA$	1	V
T_J Max.	150	°C
Package	SOT-23	
Configuration	Single dice	



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)				
PARAMETER		SYMBOL	PART NUMBER	UNIT
Marking code on the device	MMBD4148		5D	
	MMBD4148CA		A1	
	MMBD4148CC		A4	
	MMBD4148SE		A7	
Repetitive peak reverse voltage		V_{RRM}	75	V
Forward current		$I_{F(AV)}$	200	mA
Repetitive peak forward surge current		I_{FRM}	700	mA
Non-repetitive peak forward surge current	at $t=1\mu s$	I_{FSM}	2	A
	at $t=1s$		1	
Junction temperature range		T_J	-55 to +150	°C
Storage temperature range		T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	357	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$	V_F	-	1.0	V
Reverse current @ rated V_R per diode ⁽²⁾	$V_R = 20\text{V}, T_J = 25^\circ\text{C}$	I_R	-	25.0	nA
	$V_R = 75\text{V}, T_J = 25^\circ\text{C}$		-	5.0	μA
	$V_R = 20\text{V}, T_A = 150^\circ\text{C}$		-	50.0	
Reverse breakdown voltage	$I_R = 5\mu\text{A}, T_J = 25^\circ\text{C}$	$V_{(BR)}$	75	-	V
	$I_R = 100\mu\text{A}, T_J = 25^\circ\text{C}$		100	-	
Junction capacitance	1 MHz, $V_R = 0\text{V}$	C_J	-	4.0	pF
Reverse recovery time	$I_F = 10\text{mA}, I_R = 1\text{mA}, R_L = 100\Omega, V_R = 6\text{V}$	t_{rr}	-	4.0	ns

Notes:

1. Pulse test with $PW = 0.3\text{ ms}$
2. Pulse test with $PW = 30\text{ ms}$

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
MMBD414X (Note 1&2)	RF	G	SOT-23	3K / 7" Reel
	R5			10K / 13" Reel

Notes:

1. Whole series with green compound
2. "XX" is Device code from "8" to "8SE".

EXAMPLE

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
MMBD4148 RFG	MMBD4148	RF	G	Green compound

CHARACTERISTICS CURVES

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

Fig. 1 Power Derating Curve

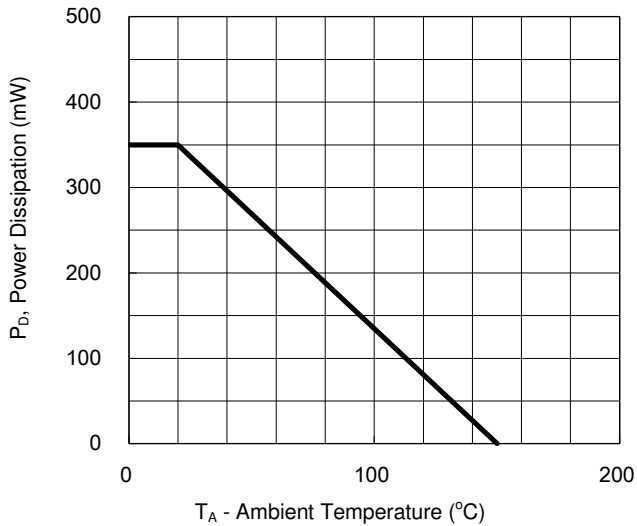


Fig.2 Forward Characteristics

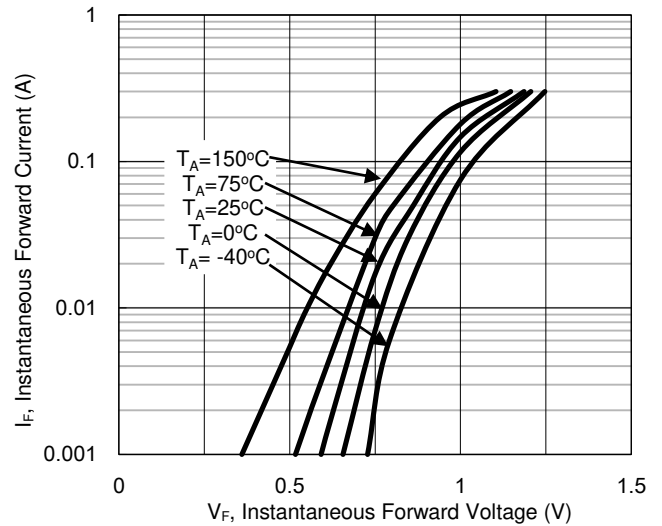


Fig.3 Typical Reverse Characteristics

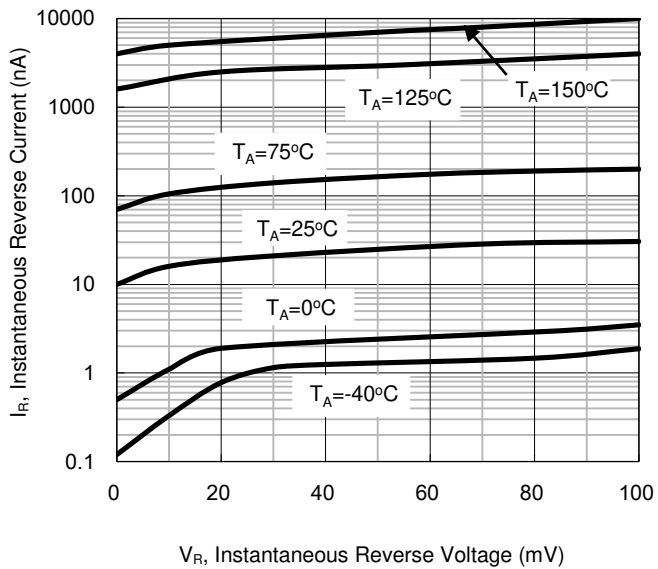
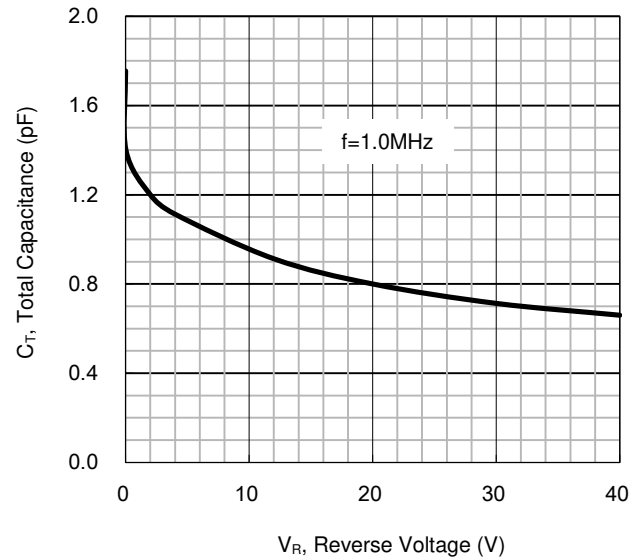
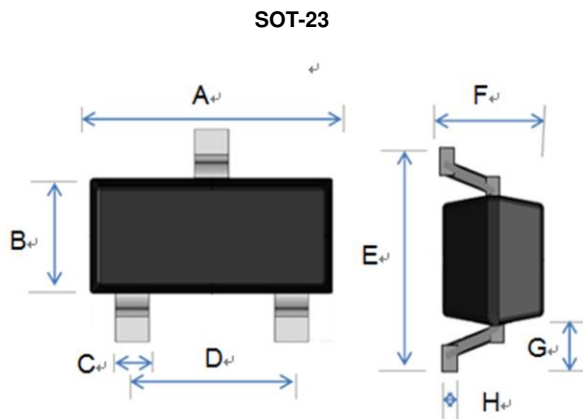


Fig.4 Typical Capacitance vs. Reverse Voltage

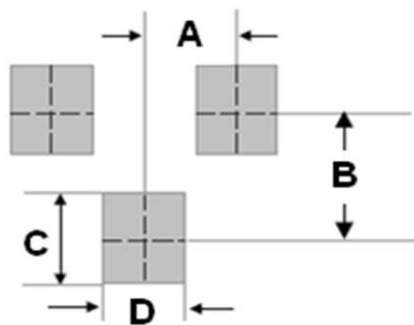


PACKAGE OUTLINE DIMENSION



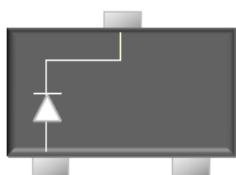
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.10	2.64	0.083	0.104
F	0.89	1.30	0.035	0.051
G	0.55 REF		0.022 REF	
H	0.10 REF		0.004 REF	

SUGGEST PAD LAYOUT

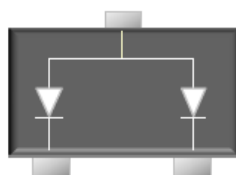


DIM.	Unit(mm)	Unit(inch)
	TYP	TYP
A	0.95	0.037
B	2.00	0.079
C	0.90	0.035
D	0.80	0.031

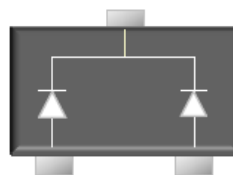
PIN CONFIGURATION



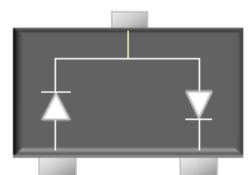
MMBD4148



MMBD4148CA



MMBD4148CC



MMBD4148SE

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