

## 150mA, 75V Surface Mount Switching Diode

### FEATURES

- Low power loss, high efficiency
- High surge current capability
- Hermetically sealed glass
- RoHS Compliant

### APPLICATIONS

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

### MECHANICAL DATA

- Case: MMELF
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: Indicated by cathode band
- Weight: 30.60mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	150	mA
$V_{RRM}$	75	V
$I_{FSM}$	4	A
$V_F$ at $I_F = 100\text{mA}$	1	V
$T_{J\text{MAX}}$	175	°C
Package	MMELF	
Configuration	Single die	


**MMELF**


ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation	$P_D$	500	mW
Repetitive peak reverse voltage	$V_{RRM}$	75	V
Forward current	$I_F$	150	mA
Non-repetitive peak forward surge current	$I_{FSM}$	t = 1s	0.5
		t = 1ms	1.0
		t = 1μs	4.0
Repetitive peak forward current	$I_{FRM}$	450	mA
Junction temperature range	$T_J$	-65 to +175	°C
Storage temperature range	$T_{STG}$	-65 to +175	°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	300	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
<b>PARAMETER</b>	<b>CONDITIONS</b>		<b>SYMBOL</b>	<b>MIN</b>	<b>MAX</b>	<b>UNIT</b>
Reverse Breakdown Voltage	$I_R = 100\mu\text{A}$		$V_{BR}$	100	-	V
	$I_R = 5\mu\text{A}$			75	-	V
Forward voltage <sup>(1)</sup>	LL4448 LL914B	$I_F = 5\text{mA}, T_J = 25^\circ\text{C}$	$V_F$	0.62	0.72	V
	LL4148	$I_F = 50\text{mA}, T_J = 25^\circ\text{C}$		-	1	V
	LL4448 LL914B	$I_F = 100\text{mA}, T_J = 25^\circ\text{C}$		-	1	V
Reverse current @ rated $V_R$ <sup>(2)</sup>	$V_R = 20\text{V}, T_J = 25^\circ\text{C}$		$I_R$	-	25	nA
	$V_R = 75\text{V}, T_J = 25^\circ\text{C}$			-	5	$\mu\text{A}$
Junction capacitance	1 MHz, $V_R = 0\text{V}$		$C_J$	-	4	pF
Reverse Recovery Time	$I_F = I_R = 10\text{mA},$ $R_L = 100\Omega, I_{RR} = 1\text{mA}$		$t_{rr}$	-	4	ns

**Notes:**

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

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE<sup>(1)</sup></b>	<b>PACKAGE</b>	<b>PACKING</b>
LL4148 L0	MMELF	10,000 / 13" Tape & Reel
LL4448 L0	MMELF	10,000 / 13" Tape & Reel
LL914B L0	MMELF	10,000 / 13" Tape & Reel
LL4148 LOG	MMELF	10,000 / 13" Tape & Reel
LL4448 LOG	MMELF	10,000 / 13" Tape & Reel
LL914B LOG	MMELF	10,000 / 13" Tape & Reel

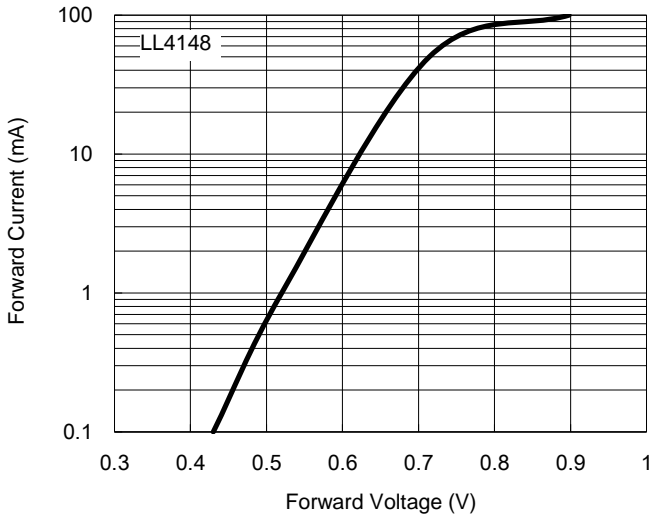
**Notes:**

1. Above ordering codes L0/LOG refer to physically identical parts without any differences

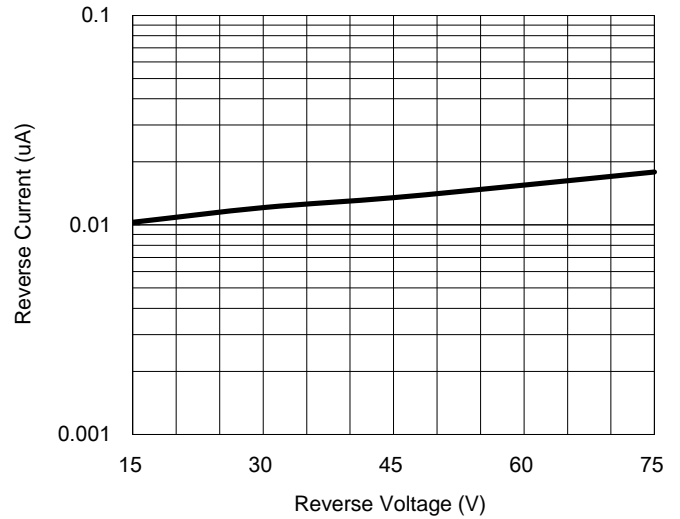
**CHARACTERISTICS CURVES**

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

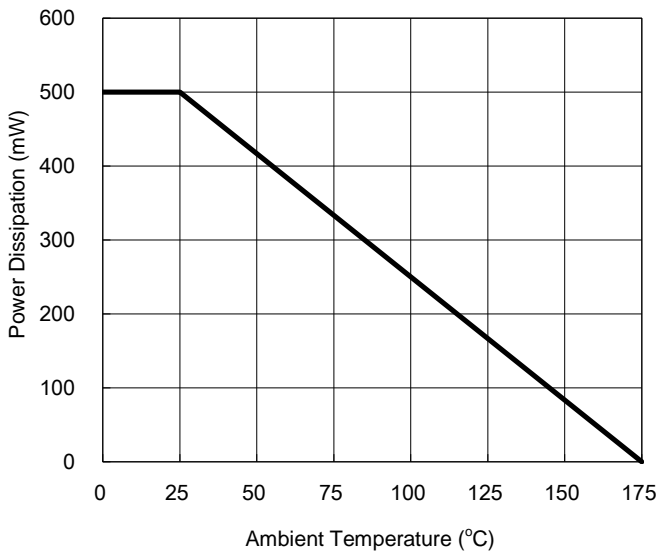
**Fig.1 Typical Forward Characteristics**



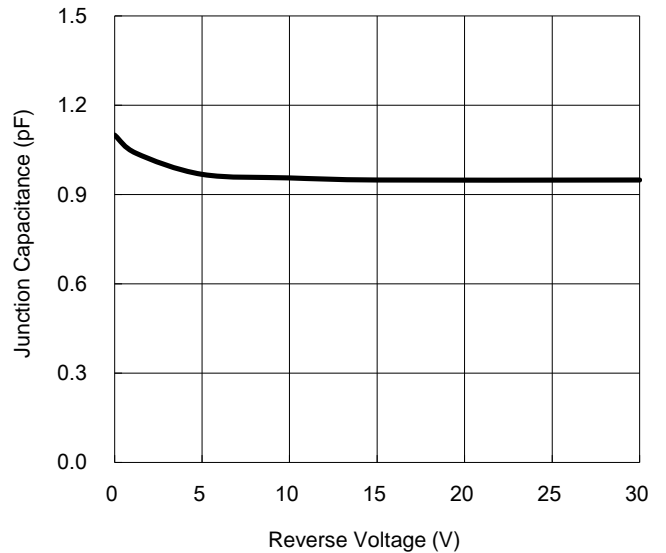
**Fig.2 Reverse Current VS. Reverse Voltage**



**Fig.3 Admissible Power Dissipation Curve**



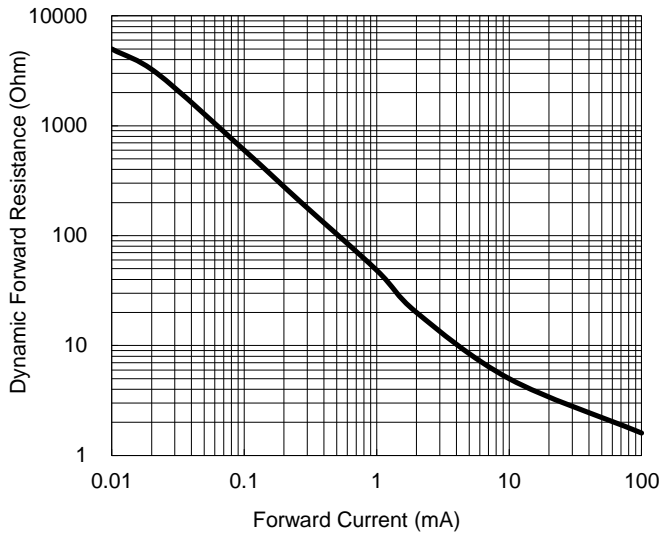
**Fig.4 Typical Junction Capacitance**



### CHARACTERISTICS CURVES

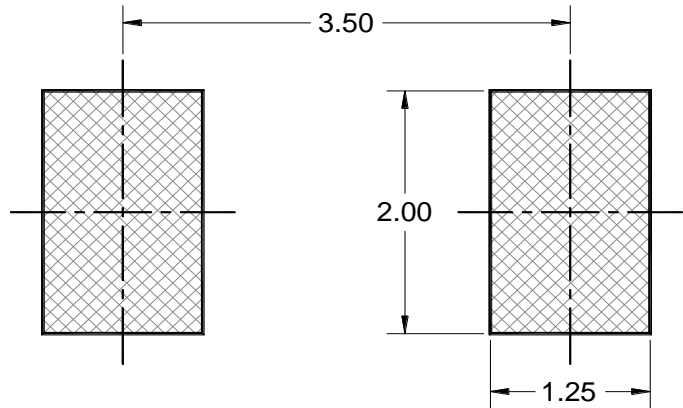
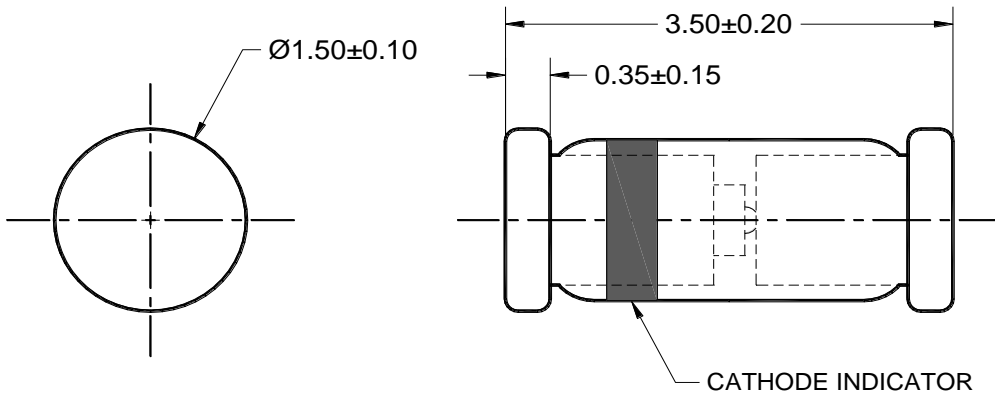
( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Fig.5 Forward Resistance VS. Forward Current**



**PACKAGE OUTLINE DIMENSIONS**

**MMELF**



**SUGGESTED PAD LAYOUT**

**NOTES: UNLESS OTHERWISE SPECIFIED**

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: JEDEC DO-213, VARIATION AA, ISSUE D.
4. DWG NO. REF: HQ2SD07-MMELFG-044 REV A.

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