

## 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: QMMELF
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: Indicated by cathode band
- Weight: 30.80mg (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	QMMELF	
Configuration	Single die	


**QMMELF**


ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation	$P_D$	500	W
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 = 1 $\mu$ s	4.0
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>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage <sup>(1)</sup>	LS4448 LS914B	$I_F = 5\text{mA}, T_J = 25^\circ\text{C}$	$V_F$	-	0.72	V
	LS4148	$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$		-	1	V
	LS4448 LS914B	$I_F = 100\text{mA}, T_J = 25^\circ\text{C}$		-	1	V
	Reverse current @ rated $V_R$ <sup>(2)</sup>			$V_R = 20\text{V}, T_J = 25^\circ\text{C}$	$I_R$	-
		$V_R = 75\text{V}, T_J = 25^\circ\text{C}$		-	5	$\mu\text{A}$
Junction capacitance		1MHz, $V_R = 0\text{V}$	$C_J$	-	4	pF

**Notes:**

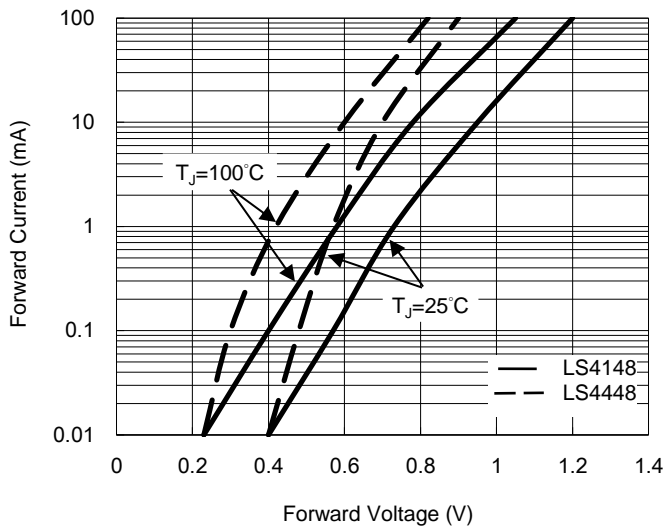
1. Pulse test with  $PW = 0.3\text{ms}$
2. Pulse test with  $PW = 30\text{ms}$

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b>	<b>PACKAGE</b>	<b>PACKING</b>
LS4148 L0G	QMMELF	10,000 / 13" Tape & Reel
LS444B L0G	QMMELF	10,000 / 13" Tape & Reel
LS914B L0G	QMMELF	10,000 / 13" Tape & Reel

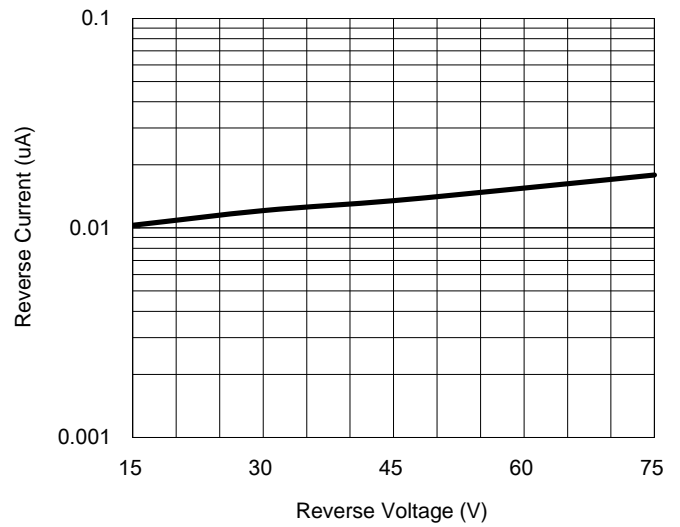
**CHARACTERISTICS CURVES**

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

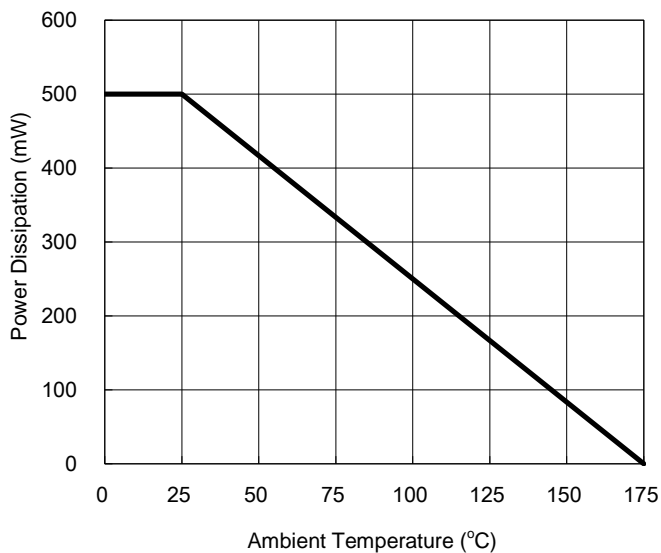
**Fig.1 Typical Forward Characteristics**



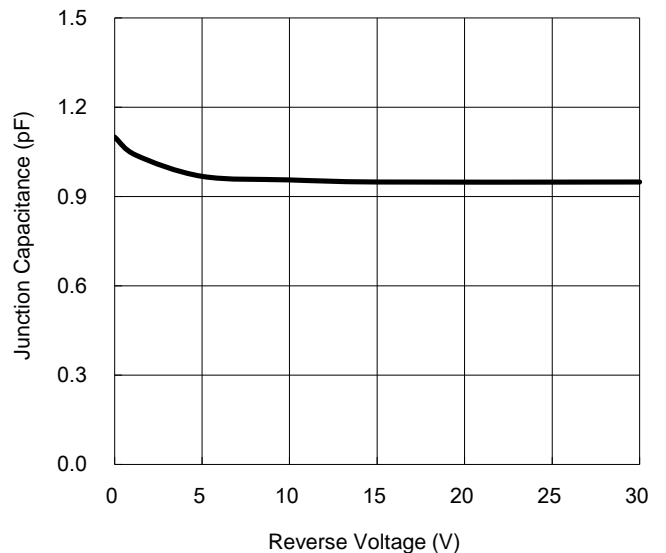
**Fig.2 Reverse Current VS. Reverse Voltage**



**Fig.3 Admissible Power Dissipation Curve**



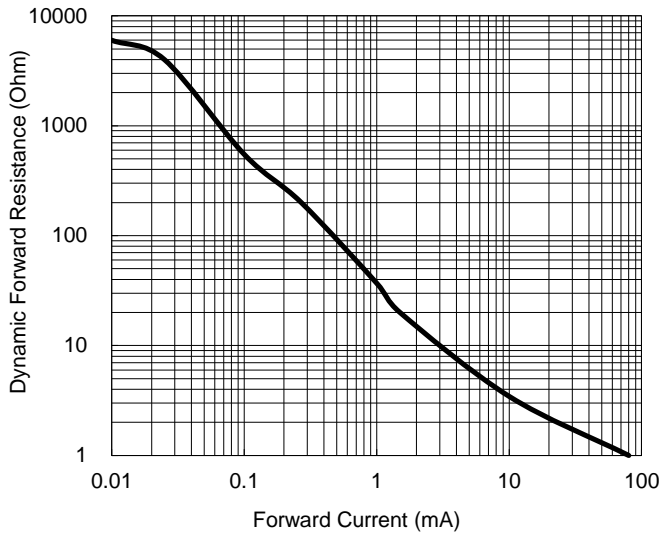
**Fig.4 Typical Junction Capacitance**



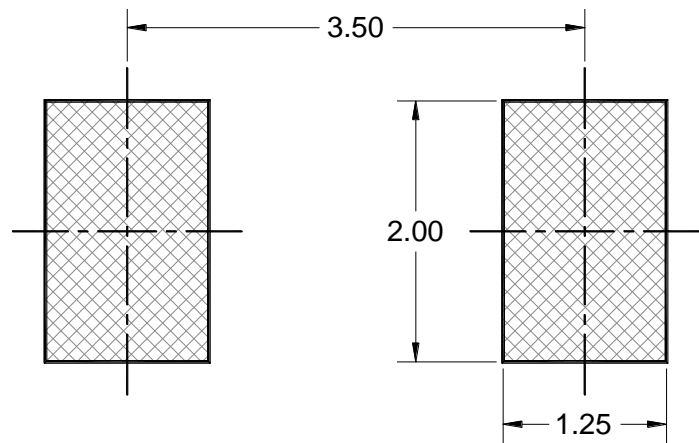
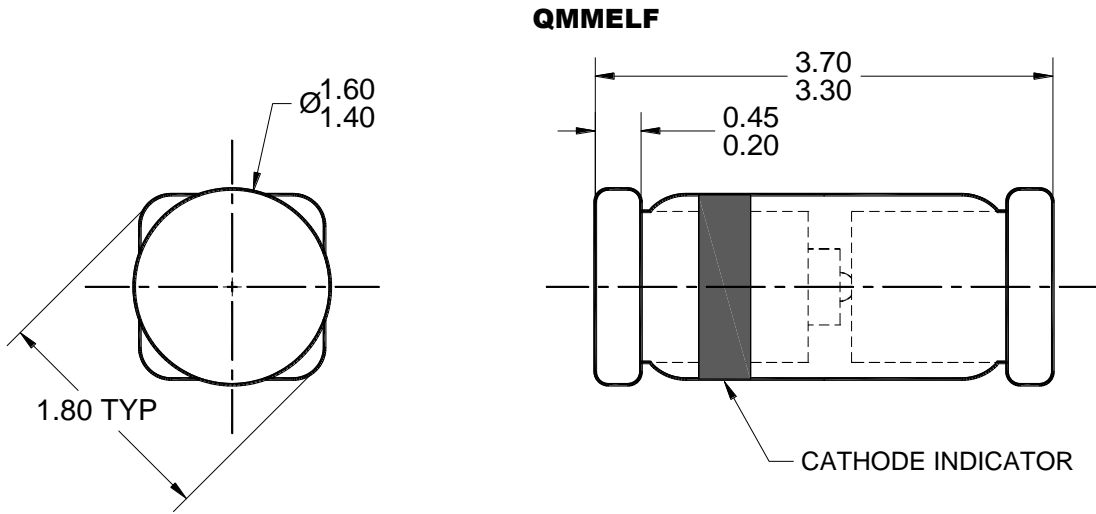
**CHARACTERISTICS CURVES**

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

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



**PACKAGE OUTLINE DIMENSIONS**



**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-QMMELF-061 REV A.

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