

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT

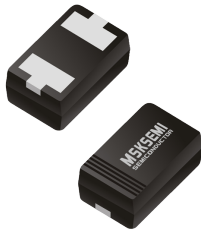


PLED

Product data sheet

## 200 mW SOD-882 Surface Mount

This series of Zener diodes is packaged in a SOD-882 surface mount package. They are designed to provide voltage regulation protection and are especially attractive in situations where space is at a premium. They are well suited for applications such as cellular phones, hand held portables, and high density PC boards.



SOD-882

### Specification Features:

- Standard Zener Breakdown Voltage Range – 2.4 V to 24 V
- Steady State Power Rating of 200 mW
- ESD Rating of Class 3 (>16 kV) per Human Body Model
- We declare that the material of product compliance with RoHS requirements and Halogen free.

### Mechanical Characteristics:

**CASE:** Void-free, transfer-molded, thermosetting plastic  
Epoxy Meets UL 94 V-0

**LEAD FINISH:** 100% Matte Sn (Tin)

**MOUNTING POSITION:** Any

**QUALIFIED MAX REFLOW TEMPERATURE:** 260°C

Device Meets MSL 1 Requirements

### MAXIMUM RATINGS

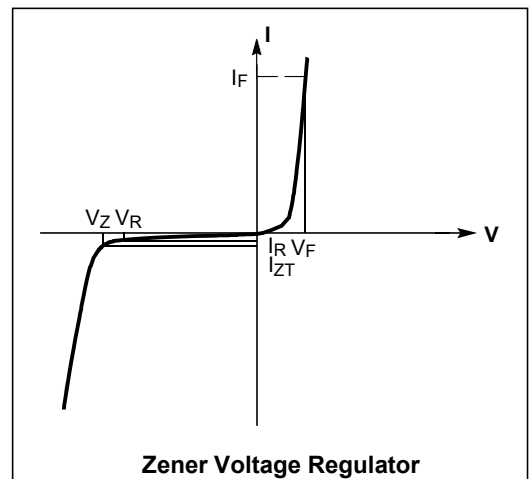
Rating	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, @ T <sub>A</sub> = 25°C	P <sub>D</sub>	200	mW
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-65 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### ELECTRICAL CHARACTERISTICS

(T<sub>A</sub> = 25°C unless otherwise noted,  
V<sub>F</sub> = 0.9 V Max. @ I<sub>F</sub> = 10 mA for all types)

Symbol	Parameter
V <sub>Z</sub>	Reverse Zener Voltage @ I <sub>ZT</sub>
I <sub>ZT</sub>	Reverse Current
Z <sub>ZT</sub>	Maximum Zener Impedance @ I <sub>ZT</sub>
I <sub>ZK</sub>	Reverse Current
Z <sub>ZK</sub>	Maximum Zener Impedance @ I <sub>ZK</sub>
I <sub>R</sub>	Reverse Leakage Current @ V <sub>R</sub>
V <sub>R</sub>	Reverse Voltage
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>
©V <sub>Z</sub>	Maximum Temperature Coefficient of V <sub>Z</sub>
C	Max. Capacitance @ V <sub>R</sub> = 0 and f = 1 MHz



**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted,  $V_F = 0.9\text{ V Max.}$  @  $I_F = 10\text{ mA}$  for all types)

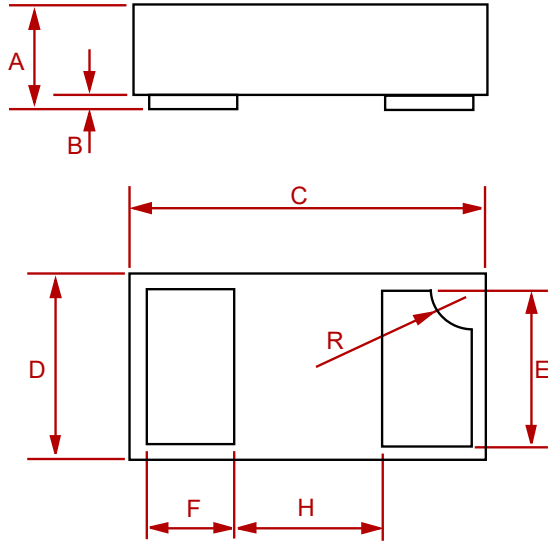
P/N	Device Marking	Zener Voltage (Note 1)			Zener Impedance			Leakage Current		@V <sub>Z</sub> (mV/k) @ I <sub>ZT</sub>		C @ V <sub>R</sub> = 0 f = 1 MHz pF
		V <sub>Z</sub> (Volts)		@ I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		Min	Max	
		Min	Max	mA	f <sub>i</sub>	f <sub>i</sub>	mA	μA	Volts	Min	Max	
LNZ8F2V4T5G-MS	J*	2.28	2.52	5	100	1000	1	50	1	-3.5	0	210
LNZ8F2V7T5G-MS	E*	2.57	2.84	5	100	1000	1	20	1	-3.5	0	210
LNZ8F3V0T5G-MS	T*	2.85	3.15	5	100	1000	1	10	1	-3.5	0	210
LNZ8F3V3T5G-MS	Q*	3.14	3.47	5	100	1000	1	10	1	-3.5	0	210
LNZ8F3V6T5G-MS	3*	3.42	3.78	5	100	1000	1	10	1	-3.5	0	210
LNZ8F3V9T5G-MS	V*	3.71	4.10	5	100	1000	1	5	1	-3.5	-2.5	210
LNZ8F4V3T5G-MS	Y*	4.09	4.52	5	100	1000	1	5	1	-3.5	0	210
LNZ8F4V7T5G-MS	7*	4.47	4.94	5	100	800	0.5	2	1	-3.5	0.2	150
LNZ8F5V1T5G-MS	4*	4.85	5.36	5	80	500	0.5	2	1.5	-2.7	1.2	130
LNZ8F5V6T5G-MS	5*	5.32	5.88	5	60	200	0.5	1	2.5	-2.0	2.5	115
LNZ8F6V2T5G-MS	6*	5.89	6.51	5	60	100	0.5	1	3	0.4	3.7	110
LNZ8F6V8T5G-MS	A*	6.46	7.14	5	40	60	0.5	0.5	3.5	1.2	4.5	105
LNZ8F7V5T5G-MS	D*	7.13	7.88	5	30	60	0.5	0.5	4	2.5	5.3	100
LNZ8F8V2T5G-MS	E*	7.79	8.61	5	30	60	0.5	0.5	5	3.2	6.2	90
LNZ8F9V1T5G-MS	F*	8.65	9.56	5	30	60	0.5	0.5	6	3.8	7	80
LNZ8F10VT5G-MS	J*	9.50	10.50	5	30	60	0.5	0.1	7	4.5	8	80
LNZ8F11VT5G-MS	K*	10.45	11.55	5	30	60	0.5	0.1	8	5.4	9	80
LNZ8F12VT5G-MS	L*	11.40	12.60	5	30	80	0.5	0.1	9	6	10	80
LNZ8F13VT5G-MS	P*	12.35	13.65	5	37	80	0.5	0.1	10	7	11	75
LNZ8F15VT5G-MS	Q*	14.25	15.75	5	42	80	0.5	0.1	11	9.2	13	70
LNZ8F16VT5G-MS	R*	15.20	16.80	5	50	80	0.5	0.1	12	10.4	14	65
LNZ8F18VT5G-MS	T*	17.10	18.90	5	50	80	0.5	0.1	14	12.4	16	60
LNZ8F20VT5G-MS	V*	19.00	21.00	5	55	100	0.5	0.1	15.4	14.4	18	55
LNZ8F22VT5G-MS	Y*	20.90	23.10	5	55	100	0.5	0.1	16.8	15.4	20	55
LNZ8F24VT5G-MS	S*	22.80	25.20	5	70	120	0.5	0.1	18.9	16.8	22	50

\*Rotated 90°.

\*\*Rotated 270°.

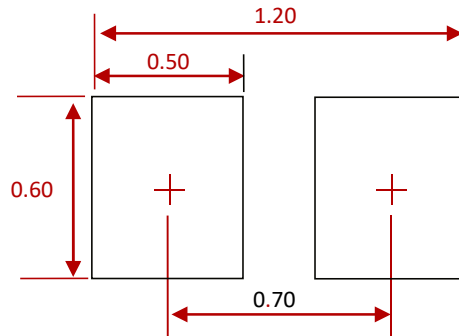
1. Zener voltage is measured with a pulse test current  $I_Z$  at an ambient temperature of  $25^\circ\text{C}$ .

**PACKAGE MECHANICAL DATA**



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.0125	0.02	0.32	0.52
B	0.000	0.002	0.00	0.05
C	0.037	0.043	0.95	1.080
D	0.022	0.027	0.55	0.680
E	0.016	0.024	0.40	0.60
F	0.008	0.012	0.20	0.30
H	0.015Typ.		0.40Typ.	
R	0.001	0.005	0.05	0.15

**Suggested Pad Layout**



**NOTES:**

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

**REEL SPECIFICATION**

P/N	PKG	QTY
LNZ8FXXXT5G-MS	S0D-882	10000

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