



UMMSZXXXT1

Preliminary

DIODE

SURFACE MOUNT SILICON ZENER DIODE

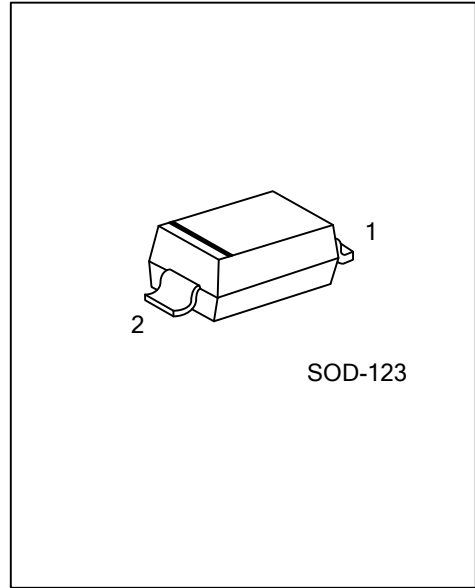
DESCRIPTION

The UTC **UMMSZXXXT1** is a surface mount silicon zener diode, it uses UTC's advanced technology to provide customers with low reverse leakage current, etc.

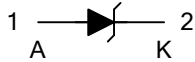
The UTC **UMMSZXXXT1** is suitable for automated assembly processes.

FEATURES

- * 500 mW Rating on FR-4 or FR-5 Board
- * Wide Zener Reverse Voltage Range: 2.4V to 56V
- * Package Designed for Optimal Automated Board Assembly



SYMBOL



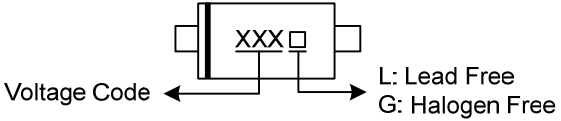
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UMMSZXXXT1L-CA2-R	UMMSZXXXT1G-CA2-R	SOD-123	A	K	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

UMMSZXXXT1G-CA2-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) CA2 : SOD-123
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING INFORMATION

PACKAGE	VOLTAGE CODE		MARKING
SOD-123	2.4: 2.4V	12: 12V	 <p>The diagram shows a top-down view of an SOD-123 diode package. It is a small rectangular component with two leads extending from the sides. A vertical line on the top surface indicates the cathode. The marking 'XXX' is located in the center of the top surface. A double-headed arrow labeled 'Voltage Code' points to the 'XXX' marking. To the right of the package, the text 'L: Lead Free' and 'G: Halogen Free' is displayed.</p>
	2.7: 2.7V	13: 13V	
	3.0: 3.0V	15: 15V	
	3.3: 3.3V	16: 16V	
	3.6: 3.6V	18: 18V	
	3.9: 3.9V	20: 20V	
	4.3: 4.3V	22: 22V	
	4.7: 4.7V	24: 24V	
	5.1: 5.1V	27: 27V	
	5.6: 5.6V	30: 30V	
	6.2: 6.2V	33: 33V	
	6.8: 6.8V	36: 36V	
	7.5: 7.5V	39: 39V	
	8.2: 8.2V	43: 43V	
	9.1: 9.1V	47: 47V	
	10: 10V	51: 51V	
	11: 11V	56: 56V	

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Zener Current	I_{ZM}	115	mA
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	4.0	A
Power Dissipation at 75°C (Note 2)	P_D	500	mW
Operating Junction Temperature	T_J	-55 ~ +150	°C

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. FR-5 = 3.5 X 1.5 inches.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

($V_F = 0.9\text{V Max @ } I_F = 10\text{mA}$ for all types.)

Part Number	Marking Code	Reverse Zener Voltage (Note3, 4)			Maximum Zener Impedance	Reverse Zener Voltage (Note3, 4)		Maximum Zener Impedance	Max Reverse Leakage Current	
		V_{Z1} (V) @ I_{ZT1} (5mA)			Z_{ZT1} I_{ZT1} (5mA) (Note 3)	V_{Z2} (V) @ I_{ZT2} 1mA		Z_{Z2} I_{ZT2} (1mA) (Note 3)	I_R @ V_R	
		MIN	TYP	MAX	Ω	MIN	MAX	Ω	μA	V
UMMSZ2V4T1	2.4	2.28	2.4	2.52	100	1.7	2.1	600	50	1
UMMSZ2V7T1	2.7	2.57	2.7	2.84	100	1.9	2.4	600	20	1
UMMSZ3V0T1	3.0	2.85	3.0	3.15	95	2.1	2.7	600	10	1
UMMSZ3V3T1	3.3	3.14	3.3	3.47	95	2.3	2.9	600	5	1
UMMSZ3V6T1	3.6	3.42	3.6	3.78	90	2.7	3.3	600	5	1
UMMSZ3V9T1	3.9	3.71	3.9	4.10	90	2.9	3.5	600	3	1
UMMSZ4V3T1	4.3	4.09	4.3	4.52	90	3.3	4.0	600	3	1
UMMSZ4V7T1	4.7	4.47	4.7	4.94	80	3.7	4.7	500	3	2
UMMSZ5V1T1	5.1	4.85	5.1	5.36	60	4.2	5.3	480	2	2
UMMSZ5V6T1	5.6	5.32	5.6	5.88	40	4.8	6.0	400	1	2
UMMSZ6V2T1	6.2	5.89	6.2	6.51	10	5.6	6.6	150	3	4
UMMSZ6V8T1	6.8	6.46	6.8	7.14	15	6.3	7.2	80	2	4
UMMSZ7V5T1	7.5	7.13	7.5	7.88	15	6.9	7.9	80	1	5
UMMSZ8V2T1	8.2	7.79	8.2	8.61	15	7.6	8.7	80	0.7	5
UMMSZ9V1T1	9.1	8.65	9.1	9.56	15	8.4	9.6	100	0.5	6
UMMSZ10T1	10	9.50	10	10.50	20	9.3	10.6	150	0.2	7
UMMSZ11T1	11	10.45	11	11.55	20	10.2	11.6	150	0.1	8
UMMSZ12T1	12	11.40	12	12.60	25	11.2	12.7	150	0.1	8
UMMSZ13T1	13	12.35	13	13.65	30	12.3	14.0	170	0.1	8
UMMSZ15T1	15	14.25	15	15.75	30	13.7	15.5	200	0.05	10.5
UMMSZ16T1	16	15.20	16	16.80	40	15.2	17.0	200	0.05	11.2
UMMSZ18T1	18	17.10	18	18.90	45	16.7	19.0	225	0.05	12.6
UMMSZ20T1	20	19.00	20	21.00	55	18.7	21.1	225	0.05	14
UMMSZ22T1	22	20.90	22	23.10	55	20.7	23.2	250	0.05	15.4
UMMSZ24T1	24	22.80	24	25.20	70	22.7	25.5	250	0.05	16.8
UMMSZ27T1	27	25.65	27	28.35	80	25	28.9	300	0.05	18.9
UMMSZ30T1	30	28.50	30	31.50	80	27.8	32	300	0.05	21
UMMSZ33T1	33	31.35	33	34.65	80	30.8	35	325	0.05	23.1
UMMSZ36T1	36	34.20	36	37.80	90	33.8	38	350	0.05	25.2
UMMSZ39T1	39	37.05	39	40.95	130	36.7	41	350	0.05	27.3
UMMSZ43T1	43	40.85	43	45.15	150	39.7	46	375	0.05	30.1
UMMSZ47T1	47	44.65	47	49.35	170	43.7	50	375	0.05	32.9

■ ELECTRICAL CHARACTERISTICS (Cont.)

(V_F = 0.9V Max @ I_F = 10mA for all types.)

Part Number	Marking Code	Reverse Zener Voltage (Note3, 4)			Maximum Zener Impedance	Reverse Zener Voltage (Note3, 4)		Maximum Zener Impedance	Max Reverse Leakage Current	
		V _{Z1} (V) @ I _{ZT1} (5mA)			Z _{ZT1} I _{ZT1} (5mA) (Note 3)	V _{Z2} (V) @ I _{ZT2} 1mA		Z _{Z2} I _{ZT2} (1mA) (Note 3)	I _R @ V _R	
		MIN	TYP	MAX	Ω	MIN	MAX	Ω	μA	V
UMMSZ51T1	51	48.45	51	53.55	180	47.6	54	400	0.05	35.7
UMMSZ56T1	56	53.20	56	58.80	200	51.5	60	425	0.05	39.2

Notes: 1. The type numbers shown have a standard tolerance of ±5% on the nominal Zener Voltage.

2. Tolerance and Voltage Designation: Zener Voltage (V_Z) is measured with the Zener Current applied for PW = 1 ms.

3. Z_{ZT} and Z_{ZK} are measured by dividing the AC voltage drop across the device by the AC current applied. The specified limits are for I_{Z(AC)} = 0.1 I_{Z(DC)}, with the AC frequency = 1 kHz

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