

**USMA59XX**

Preliminary

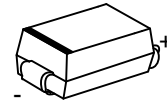
DIODE**PLASTIC SURFACE MOUNT
ZENER VOLTAGE
REGULATORS****■ DESCRIPTION**

The UTC **USMA59XX** is a surface mount silicon zener diode, it uses UTC's advanced technology to provide customers with low reverse leakage current, etc.

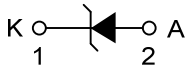
The UTC **USMA59XX** is suitable for automated assembly processes.

■ FEATURES

- * ESD Rating of Class 3 (> 16 kV) per Human Body Model
- * Flat Handling Surface for Accurate Placement
- * Package Design for Top Side or Bottom Circuit Board Mounting



SMA
(JEDEC DO-214AC)

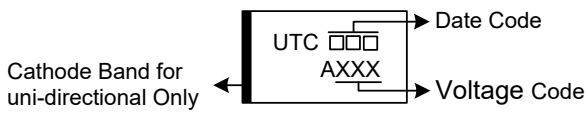
■ SYMBOL**■ ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
USMA59XXL-SMA-R	USMA59XXG-SMA-R	SMA	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

USMA59XXG-SMA-R		(1) R: Tape Reel (2) SMA: SMA (3) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING INFORMATION

PACKAGE	VOLTAGE CODE		MARKING
SMA	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	
	7.5: 7.5V	36: 36V	
	8.2: 8.2V	39: 39V	
	9.1: 9.1V	43: 43V	
	10: 10V	47: 47V	
	11: 11V	51: 51V	
	12: 12V	56: 56V	
	13: 13V	68: 68V	
	15: 15V		

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Power Dissipation ($T_A=25^{\circ}\text{C}$)	P_D	0.5	W
Operating Junction Temperature	T_J	-65 ~ +150	$^{\circ}\text{C}$

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-4 Board,

■ ELECTRICAL CHARACTERISTICS ($V_F=1.2\text{V Max. @ } I_F=200\text{mA}$ for all types.)

Part Number	Marking Code	Nominal Zener Voltage			Zener Impedance				Reverse Leakage Current		Maximum Zener Current
		$V_Z(\text{V}) @ I_{ZT}$			$Z_{ZT} @ I_{ZT}$		$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}
		MIN	TYP	MAX	Max (Ω)	$I_{ZT}(\text{mA})$	Max (Ω)	$I_{ZK}(\text{mA})$	Max (μA)	$V_R(\text{V})$	mA
USMA5913	3.3	3.13	3.3	3.47	10	76	500	1.0	50	1.0	455
USMA5914	3.6	3.42	3.6	3.78	9.0	104.2	500	1.0	35.5	1.0	417
USMA5915	3.9	3.70	3.9	4.10	7.5	96.1	500	1.0	12.5	1.0	385
USMA5916	4.3	4.08	4.3	4.52	6.0	87.2	500	1.0	2.5	1.0	349
USMA5917	4.7	4.46	4.7	4.94	5.0	79.8	500	1.0	2.5	1.5	319
USMA5918	5.1	4.84	5.1	5.36	4.0	73.5	350	1.0	2.5	2.0	294
USMA5919	5.6	5.32	5.6	5.88	2.0	66.9	250	1.0	2.5	3.0	268
USMA5920	6.2	5.89	6.2	6.51	2.0	60.5	200	1.0	2.5	4.0	242
USMA5921	6.8	6.46	6.8	7.14	2.5	55.1	200	1.0	2.5	5.2	221
USMA5922	7.5	7.12	7.5	7.88	3.0	50	400	0.5	2.5	6.0	200
USMA5923	8.2	7.79	8.2	8.61	3.5	45.7	400	0.5	2.5	6.5	183
USMA5924	9.1	8.64	9.1	9.56	4.0	41.2	500	0.5	2.5	7.0	165
USMA5925	10	9.50	10	10.50	4.5	37.5	500	0.25	2.5	8.0	150
USMA5926	11	10.45	11	11.55	5.5	34.1	550	0.25	0.5	8.4	136
USMA5927	12	11.40	12	12.60	6.5	31.2	550	0.25	0.5	9.1	125
USMA5928	13	12.35	13	13.65	7.0	28.8	550	0.25	0.5	9.9	115
USMA5929	15	14.25	15	15.75	9.0	25	600	0.25	0.5	11.4	100
USMA5930	16	15.20	16	16.80	10	23.4	600	0.25	0.5	12.2	94
USMA5931	18	17.10	18	18.90	12	20.8	650	0.25	0.5	13.7	83
USMA5932	20	19.00	20	21.00	14	18.7	650	0.25	0.5	15.2	75
USMA5933	22	20.90	22	23.10	17.5	17	650	0.25	0.5	16.7	68
USMA5934	24	22.80	24	25.20	19	15.6	700	0.25	0.5	18.2	63
USMA5935	27	25.65	27	28.35	23	13.9	700	0.25	0.5	20.6	56
USMA5936	30	28.50	30	31.50	26	12.5	750	0.25	0.5	22.8	50
USMA5937	33	31.35	33	34.65	33	11.4	800	0.25	0.5	25.1	45
USMA5938	36	34.20	36	37.80	38	10.4	850	0.25	0.5	27.4	42
USMA5939	39	37.05	39	40.95	45	9.6	900	0.25	0.5	29.7	38
USMA5940	43	40.85	43	45.15	53	8.7	950	0.25	0.5	32.7	35
USMA5941	47	44.65	47	49.35	67	8.0	1000	0.25	0.5	35.8	32
USMA5942	51	48.45	51	53.55	70	7.3	1100	0.25	0.5	38.8	29
USMA5943	56	53.20	56	58.80	86	6.7	1300	0.25	0.5	42.6	27
USMA5945	68	64.60	68	71.40	120	5.5	1700	0.25	0.5	51.7	22

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