Certificate Number: Q10561

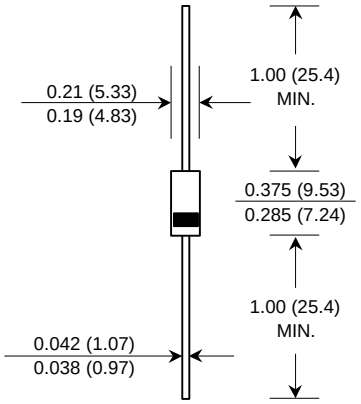
Certificate Number: E17276

ULCE SERIES

ULTRA LOW CAPACITANCE TRANSIENT VOLTAGE SUPPRESSOR

VBR : 6.5 - 90 Volts
PPK : 1500 Watts

DO-201



Dimensions in inches and (millimeters)

FEATURES :

* 1500W Peak Pulse Surge reverse capability on 10/1000µs waveform
* Excellent clamping capability
* Low incremental surge resistance
* Fast response time : typically less than 5.0 ns from 0 volts to BV

MECHANICAL DATA

* Case : DO-201 Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
* Polarity : Color band denotes positive end on the Transorb (cathode)
* Mounting position : Any
* Weight : 0.93 gram

MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000µs waveform (Note 1, Figure 1)	P_{PPM}	Minimum 1500	Watts
Steady State Power Dissipation at T_L = 75 °C Lead Lengths 0.375", (9.5mm) (Note 2)	P_D	5.0	Watts
Peak Pulse Power Surge Current on 10/1000 µs Waveform (Fig. 3, Note 1)	I_{RSM}	See Table 1.	Amps.
Operating and Storage Temperature Range	T_J, T_{STG}	- 65 to + 175	°C

Note :

(1) Non-repetitive Current pulse, per Fig. 3 and derated above Ta = 25 °C per Fig. 2
(2) 8.3 ms single half sine-wave, duty cycle = 4 pulses per minutes maximum.

UPDATE : APRIL 6, 2002

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ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

TYPE NUMBER	Breakdown Voltage @ It			Reverse Stand-off Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Clamping Voltage @ I_{RSM}	Maximum Reverse Current	Maximum Junction Capacitance @ 0 Volt	Working Inverse Blocking Voltage	Max. Inverse Blocking Current @ V_{WIB}	Peak Inverse Blocking Voltage
	V_{BR} (V)		It	V_{RWM}	I_R	V_{RSM}	I_{RSM}		V_{WIB}	I_{IB}	V_{PIB}
	Min.	Max.	(mA)	(V)	(μA)	(V)	(A)	pF	(V)	mA	(V)
ULCE6.5	7.22	8.82	10	6.5	1000	12.3	100	35	75	1.0	100
ULCE6.5A	7.22	7.98	10	6.5	1000	11.2	100	35	75	1.0	100
ULCE7.0	7.78	9.51	10	7.0	500	13.3	100	35	75	1.0	100
ULCE7.0A	7.78	8.60	10	7.0	500	12.0	100	35	75	1.0	100
ULCE7.5	8.33	10.2	10	7.5	250	14.3	100	35	75	1.0	100
ULCE7.5A	8.33	9.21	10	7.5	250	12.9	100	35	75	1.0	100
ULCE8.0	8.89	10.9	10	8.0	100	15.0	100	35	75	1.0	100
ULCE8.0A	8.89	9.83	10	8.0	100	13.6	100	35	75	1.0	100
ULCE8.5	9.44	11.5	1.0	8.5	50	15.9	94	35	75	1.0	100
ULCE8.5A	9.44	10.4	1.0	8.5	50	14.4	100	35	75	1.0	100
ULCE9.0	10.0	12.2	1.0	9.0	10.0	16.9	89	35	75	1.0	100
ULCE9.0A	10.0	11.1	1.0	9.0	10.0	15.4	97	35	75	1.0	100
ULCE10	11.1	13.6	1.0	10	5.0	18.8	80	35	75	1.0	100
ULCE10A	11.1	12.3	1.0	10	5.0	17.0	88	35	75	1.0	100
ULCE11	12.2	14.9	1.0	11	5.0	20.1	74	35	75	1.0	100
ULCE11A	12.2	13.5	1.0	11	5.0	18.2	82	35	75	1.0	100
ULCE12	13.3	16.3	1.0	12	5.0	22.0	68	35	75	1.0	100
ULCE12A	13.3	14.7	1.0	12	5.0	19.9	75	35	75	1.0	100
ULCE13	14.4	17.6	1.0	13	5.0	23.8	63	35	75	1.0	100
ULCE13A	14.4	15.9	1.0	13	5.0	21.5	70	35	75	1.0	100
ULCE14	15.6	19.1	1.0	14	5.0	25.8	58	35	75	1.0	100
ULCE14A	15.6	17.2	1.0	14	5.0	23.2	65	35	75	1.0	100
ULCE15	16.7	20.4	1.0	15	5.0	26.9	56	35	75	1.0	100
ULCE15A	16.7	18.5	1.0	15	5.0	24.4	61	35	75	1.0	100
ULCE16	17.8	21.8	1.0	16	5.0	28.8	52	35	75	1.0	100
ULCE16A	17.8	19.7	1.0	16	5.0	26.0	57	35	75	1.0	100
ULCE17	18.9	23.1	1.0	17	5.0	30.5	49	35	75	1.0	100
ULCE17A	18.9	20.9	1.0	17	5.0	27.6	54	35	75	1.0	100
ULCE18	20	24.4	1.0	18	5.0	32.2	46	35	75	1.0	100
ULCE18A	20	22.1	1.0	18	5.0	29.2	51	35	75	1.0	100
ULCE20	22.2	27.1	1.0	20	5.0	35.8	42	35	75	1.0	100
ULCE20A	22.2	24.5	1.0	20	5.0	32.4	46	35	75	1.0	100
ULCE22	24.4	29.8	1.0	22	5.0	39.4	38	35	75	1.0	100
ULCE22A	24.4	26.9	1.0	22	5.0	35.5	42	35	75	1.0	100
ULCE24	26.7	32.6	1.0	24	5.0	43.0	35	35	75	1.0	100
ULCE24A	26.7	29.5	1.0	24	5.0	38.9	39	35	75	1.0	100
ULCE26	28.9	35.3	1.0	26	5.0	46.6	32	35	75	1.0	100
ULCE26A	28.9	31.9	1.0	26	5.0	42.1	36	35	75	1.0	100
ULCE28	31.1	38.0	1.0	28	5.0	50.1	30	35	75	1.0	100
ULCE28A	31.1	34.4	1.0	28	5.0	45.5	33	35	75	1.0	100
ULCE30	33.3	40.7	1.0	30	5.0	53.5	28	35	75	1.0	100
ULCE30A	33.3	36.8	1.0	30	5.0	48.4	31	35	75	1.0	100
ULCE33	36.7	44.9	1.0	33	5.0	59.0	25.4	35	75	1.0	100
ULCE33A	36.7	40.6	1.0	33	5.0	53.3	28.1	35	75	1.0	100
ULCE36	40.0	48.9	1.0	36	5.0	64.3	23.3	35	75	1.0	100
ULCE36A	40.0	44.2	1.0	36	5.0	58.1	25.8	35	75	1.0	100
ULCE40	44.4	54.3	1.0	40	5.0	71.4	21	35	75	1.0	100
ULCE40A	44.4	49.1	1.0	40	5.0	64.5	23.3	35	75	1.0	100
ULCE43	47.8	58.4	1.0	43	5.0	76.7	19.5	35	150	1.0	200
ULCE43A	47.8	52.8	1.0	43	5.0	69.4	21.6	35	150	1.0	200

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ELECTRICAL CHARACTERISTICS

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TYPE NUMBER	Breakdown Voltage @ It			Reverse Stand-off Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Clamping Voltage @ I_{RSM}	Maximum Reverse Current	Maximum Junction Capacitance @ 0 Volt	Working Inverse Blocking Voltage	Max. Inverse Blocking Current @ V_{WIB}	Peak Inverse Blocking Voltage
	V_{BR} (V)		It	V_{RWM}	I_R	V_{RSM}	I_{RSM}		V_{WIB}	I_{IB}	V_{PIB}
	Min.	Max.	(mA)	(V)	(µA)	(V)	(A)	pF	(V)	mA	(V)
ULCE45	50.0	61.1	1.0	45	5.0	80.3	18.7	35	150	1.0	200
ULCE45A	50.0	55.3	1.0	45	5.0	72.7	20.6	35	150	1.0	200
ULCE48	53.3	65.1	1.0	48	5.0	85.5	17.5	35	150	1.0	200
ULCE48A	53.3	58.9	1.0	48	5.0	77.4	19.4	35	150	1.0	200
ULCE51	56.7	69.3	1.0	51	5.0	91.1	16.5	35	150	1.0	200
ULCE51A	56.7	62.7	1.0	51	5.0	82.4	18.2	35	150	1.0	200
ULCE54	60.0	73.3	1.0	54	5.0	96.3	15.6	35	150	1.0	200
ULCE54A	60.0	66.3	1.0	54	5.0	87.1	17.2	35	150	1.0	200
ULCE58	64.4	78.7	1.0	58	5.0	103	14.6	35	150	1.0	200
ULCE58A	64.4	71.2	1.0	58	5.0	93.6	16	35	150	1.0	200
ULCE60	66.7	81.5	1.0	60	5.0	107	14	35	150	1.0	200
ULCE60A	66.7	73.7	1.0	60	5.0	96.8	15.5	35	150	1.0	200
ULCE64	71.1	86.9	1.0	64	5.0	114	13.2	35	150	1.0	200
ULCE64A	71.1	78.6	1.0	64	5.0	103	14.6	35	150	1.0	200
ULCE70	77.8	95.1	1.0	70	5.0	125	12.0	35	150	1.0	200
ULCE70A	77.8	86.0	1.0	70	5.0	113	13.3	35	150	1.0	200
ULCE75	83.3	102	1.0	75	5.0	134	11.2	35	150	1.0	200
ULCE75A	83.3	92.1	1.0	75	5.0	121	12.4	35	150	1.0	200
ULCE80	88.7	108	1.0	80	5.0	142	10.6	35	150	1.0	200
ULCE80A	88.7	98.0	1.0	80	5.0	129	11.6	35	150	1.0	200
ULCE90	100	122	1.0	90	5.0	160	9.4	35	300	1.0	200
ULCE90A	100	111	1.0	90	5.0	146	10.3	35	300	1.0	200

FIG.1 - PEAK PULSE POWER RATING CURVE

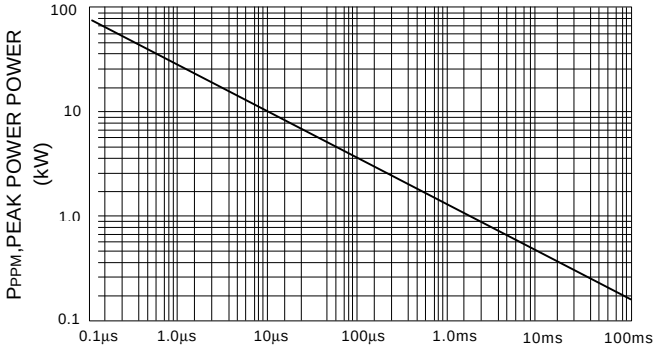

FIG.2 - PULSE DERATING CURVE

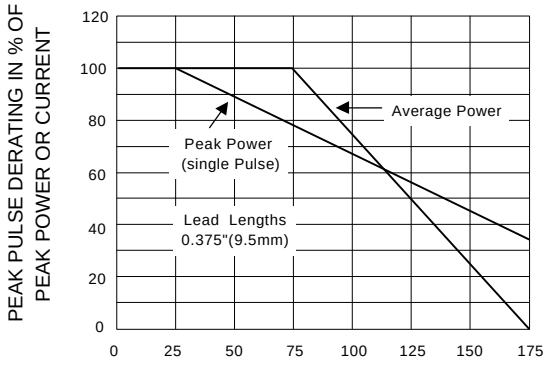

FIG.3 - PULSE WAVEFORM