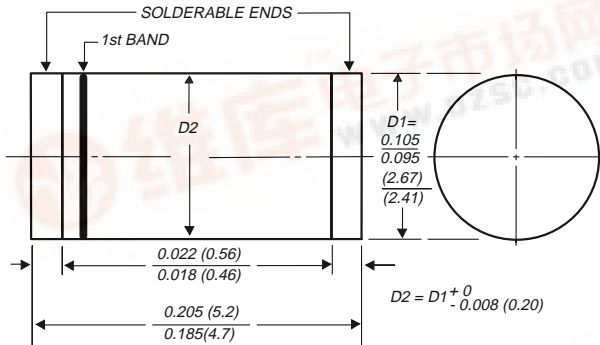


# TGL41-6.8 THRU TGL41-200A

## SURFACE MOUNT TRANSZORB™ TRANSIENT VOLTAGE SUPPRESSOR

*Breakdown Voltage - 6.8 to 200 Volts      Peak Pulse Power - 400 Watts*

### DO-213AB



1st band denotes type and positive end (cathode)

Dimensions in inches and (millimeters)

Available in uni-directional only

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Glass passivated junction
- ◆ Excellent clamping capability
- ◆ Low incremental surge resistance
- ◆ Fast response time typically less than 1.0ps from 0 Volts to  $V_{(BR)}$
- ◆ 400W peak pulse capability with a 10/1000 $\mu$ s waveform, repetition rate (duty cycle): 0.01%
- ◆ For devices with  $V_{(BR)} \geq 10V$ ,  $I_D$  are typically less than 1.0 $\mu$ A
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals



### MECHANICAL DATA

**Case:** JEDEC DO-213AB molded plastic body over passivated junction

**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity:** Blue bands denotes the cathode which is positive with respect to the anode under normal TVS operation

**Mounting Position:** Any

**Weight:** 0.116 gram, 0.0046 ounce

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATINGS	SYMBOL	VALUE	UNITS
Peak pulse power dissipation with a 10/1000 $\mu$ s waveform (NOTE 1, FIG. 1)	PPPM	Minimum 400	Watts
Steady state power dissipation at $T_L=75^\circ\text{C}$ (NOTE 2)	PM(AV)	1.0	Watt
Peak pulse current with a 10/1000 $\mu$ s waveform (NOTE 1, FIG. 3)	IPPM	SEE TABLE 1	Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load for unidirectional only (JEDEC Method) (NOTE 3)	IFSM	40.0	Amps
Maximum instantaneous forward voltage at 25A for unidirectional only	VF	3.5	Volts
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150	°C

**NOTES:**

- (1) Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 2
- (2) Mounted on copper pads to each terminal of 0.31 in. (8.0 mm) per Fig. 5
- (3) Measured at 8.3ms single half sine-wave or equivalent square wave duty cycle=4 pulses per minute maximum

**ELECTRICAL CHARACTERISTICS at (T<sub>A</sub>=25°C unless otherwise noted) TABLE 1**

Device Type	Breakdown Voltage V <sub>(BR)</sub> (Volts) (NOTE 1)		Test Current at I <sub>T</sub> (mA)	Stand-off Voltage V <sub>WM</sub> (NOTE 4) (Volts)	Maximum Reverse Leakage at V <sub>WM</sub> I <sub>D</sub> (μA) (NOTE 4)	Maximum Peak Pulse Current I <sub>PPM</sub> (NOTE 2) (Amps)	Maximum Clamping Voltage at I <sub>PPM</sub> V <sub>C</sub> (Volts)	Maximum Temperature Coefficient of V <sub>(BR)</sub> (% / °C)
	MIN	MAX						
TGL41-6.8	6.12	7.48	10	5.50	1000	37.0	10.8	0.060
TGL41-6.8A	6.45	7.14	10	5.80	1000	38.1	10.5	0.060
TGL41-7.5	6.75	8.25	10	6.05	500	34.2	11.7	0.064
TGL41-7.5A	7.13	7.88	10	6.40	500	35.4	11.3	0.064
TGL41-8.2	7.38	9.02	10	6.63	200	32.0	12.5	0.068
TGL41-8.2A	7.79	8.61	10	7.02	200	33.1	12.1	0.068
TGL41-9.1	8.19	10.0	1.0	7.37	50.0	29.0	13.8	0.071
TGL41-9.1A	8.65	9.55	1.0	7.78	50.0	29.9	13.4	0.071
TGL41 -10	9.00	11.0	1.0	8.10	10.0	26.7	15.0	0.076
TGL41 -10A	9.50	10.5	1.0	8.55	10.0	27.6	14.5	0.076
TGL41 -11	9.90	12.1	1.0	8.92	5.0	24.7	16.2	0.078
TGL41 -11A	10.5	11.6	1.0	9.40	5.0	25.6	15.6	0.078
TGL41-12	10.8	13.2	1.0	9.72	5.0	23.1	17.3	0.081
TGL41-12A	11.4	12.6	1.0	10.2	5.0	24.0	16.7	0.081
TGL41-13	11.7	14.3	1.0	10.5	5.0	21.1	19.0	0.084
TGL41-13A	12.4	13.7	1.0	11.1	5.0	22.0	18.2	0.084
TGL41-15	13.5	16.5	1.0	12.1	5.0	18.2	22.0	0.087
TGL41-15A	14.3	15.8	1.0	12.8	5.0	18.9	21.2	0.087
TGL41-16	14.4	17.6	1.0	12.9	5.0	17.0	23.5	0.089
TGL41-16A	15.2	16.8	1.0	13.6	5.0	17.8	22.5	0.089
TGL41-18	16.2	19.8	1.0	14.5	5.0	15.1	26.5	0.091
TGL41-18A	17.1	18.9	1.0	15.3	5.0	15.9	25.2	0.091
TGL41-20	18.0	22.0	1.0	16.2	5.0	13.7	29.1	0.093
TGL41-20A	19.0	21.0	1.0	17.1	5.0	14.4	27.7	0.093
TGL41-22	19.8	24.2	1.0	17.8	5.0	12.5	31.9	0.095
TGL41-22A	20.9	23.1	1.0	18.8	5.0	13.1	30.6	0.095
TGL41-24	21.6	26.4	1.0	19.4	5.0	11.5	34.7	0.097
TGL41-24A	22.8	25.2	1.0	20.5	5.0	12.0	33.2	0.097
TGL41-27	24.3	29.7	1.0	21.8	5.0	10.2	39.1	0.099
TGL41-27A	25.7	28.4	1.0	23.1	5.0	10.7	37.5	0.099
TGL41-30	27.0	33.0	1.0	24.3	5.0	9.2	43.5	0.100
TGL41-30A	28.5	31.5	1.0	25.6	5.0	9.7	41.4	0.100
TGL41-33	29.7	36.3	1.0	26.8	5.0	8.4	47.7	0.101
TGL41-33A	31.4	34.7	1.0	28.2	5.0	8.8	45.7	0.101
TGL41-36	32.4	39.6	1.0	29.1	5.0	7.7	52.0	0.102
TGL41-36A	34.2	37.8	1.0	30.8	5.0	8.0	49.9	0.102
TGL41-39	35.1	42.9	1.0	31.6	5.0	7.1	56.4	0.103
TGL41-39A	37.1	41.0	1.0	33.3	5.0	7.4	53.9	0.103
TGL41-43	38.7	47.3	1.0	34.8	5.0	6.5	61.9	0.104
TGL41-43A	40.9	45.2	1.0	36.8	5.0	6.7	59.3	0.104

**ELECTRICAL CHARACTERISTICS at (TA=25°C unless otherwise noted) TABLE 1 (Cont'd)**

Device Type	Breakdown Voltage V <sub>(BR)</sub> Volts (NOTE 1)		Test Current at I <sub>T</sub> (mA)	Stand-off Voltage V <sub>WM</sub> (Volts)	Maximum Reverse Leakage at V <sub>WM</sub> I <sub>D</sub> (μA)	Maximum Peak Pulse Current I <sub>PPM</sub> (NOTE 2) (Amps)	Maximum Clamping Voltage at I <sub>PPM</sub> V <sub>C</sub> (Volts)	Maximum Temperature Coefficient of V <sub>(BR)</sub> (% / °C)
	MIN	MAX						
TGL41-47	42.3	51.7	1.0	38.1	5.0	5.9	67.8	0.104
TGL41-47A	44.7	49.4	1.0	40.2	5.0	6.2	64.8	0.104
TGL41-51	45.9	56.1	1.0	41.3	5.0	5.4	73.5	0.105
TGL41-51A	48.5	53.6	1.0	43.6	5.0	5.7	70.1	0.105
TGL41-56	50.4	61.6	1.0	45.4	5.0	5.0	80.5	0.106
TGL41-56A	53.2	58.8	1.0	47.8	5.0	5.2	77.0	0.106
TGL41-62	55.8	68.2	1.0	50.2	5.0	4.5	89.0	0.107
TGL41-62A	58.9	65.1	1.0	53.0	5.0	4.7	85.0	0.107
TGL41-68	61.2	74.8	1.0	55.1	5.0	4.1	98.0	0.107
TGL41-68A	64.6	71.4	1.0	58.1	5.0	4.3	92.0	0.107
TGL41-75	67.5	82.5	1.0	60.7	5.0	3.7	108	0.108
TGL41-75A	71.3	78.8	1.0	64.1	5.0	3.9	103	0.108
TGL41-82	73.8	90.2	1.0	66.4	5.0	3.4	118	0.108
TGL41-82A	77.9	86.1	1.0	70.1	5.0	3.5	113	0.108
TGL41-91	81.9	100.0	1.0	73.7	5.0	3.1	131	0.109
TGL41-91A	86.5	95.50	1.0	77.8	5.0	3.2	125	0.109
TGL41-100	90.0	110.0	1.0	81.0	5.0	1.39	144	0.109
TGL41-100A	95.0	105.0	1.0	85.5	5.0	1.46	137	0.109
TGL41-110	99.0	121.0	1.0	89.2	5.0	1.27	158	0.110
TGL41-110A	105.0	116.0	1.0	94.0	5.0	1.32	152	0.110
TGL41-120	108.0	132.0	1.0	97.2	5.0	1.16	173	0.110
TGL41-120A	114.0	126.0	1.0	102.0	5.0	1.21	165	0.110
TGL41-130	117.0	143.0	1.0	105.0	5.0	1.07	187	0.110
TGL41-130A	124.0	137.0	1.0	111.0	5.0	1.12	179	0.110
TGL41-150	135.0	165.0	1.0	121.0	5.0	0.93	215	0.111
TGL41-150A	143.0	158.0	1.0	128.0	5.0	0.97	207	0.111
TGL41-160	144.0	176.0	1.0	130.0	5.0	0.87	230	0.111
TGL41-160A	152.0	168.0	1.0	136.0	5.0	0.91	219	0.111
TGL41-170	153.0	187.0	1.0	138.0	5.0	0.82	244	0.111
TGL41-170A	162.0	179.0	1.0	145.0	5.0	0.85	234	0.111
TGL41-180	162.0	198.0	1.0	146.0	5.0	0.78	258	0.111
TGL41-180A	171.0	189.0	1.0	154.0	5.0	0.81	246	0.111
TGL41-200	180.0	220.0	1.0	162.0	5.0	0.70	287	0.111
TGL41-200A	190.0	210.0	1.0	171.0	5.0	0.73	274	0.111

**NOTES:**

- (1) V<sub>(BR)</sub> measured after I<sub>T</sub> applied for 300μs square wave pulse or equivalent
- (2) Surge current waveform per Figure 3 and derate per Fig.2
- (3) All terms and symbols are consistent with ANSI/IEEE C62.35

# RATINGS AND CHARACTERISTIC CURVES TGL41-6.8A THRU TGL41-200A

FIG. 1 - PEAK PULSE POWER RATING CURVE

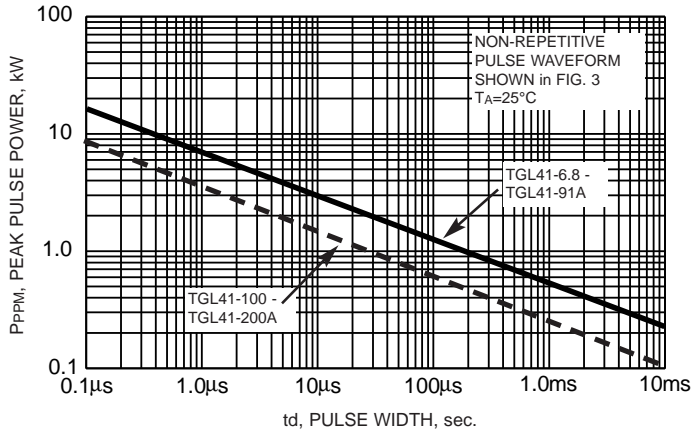


FIG. 2 - PULSE DERATING CURVE

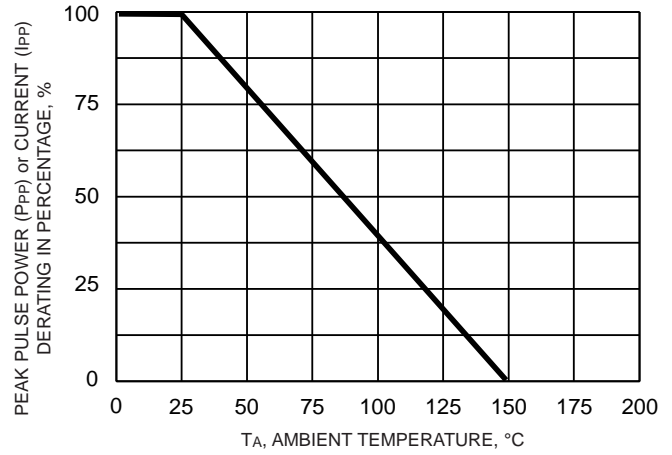


FIG. 3 - PULSE WAVEFORM

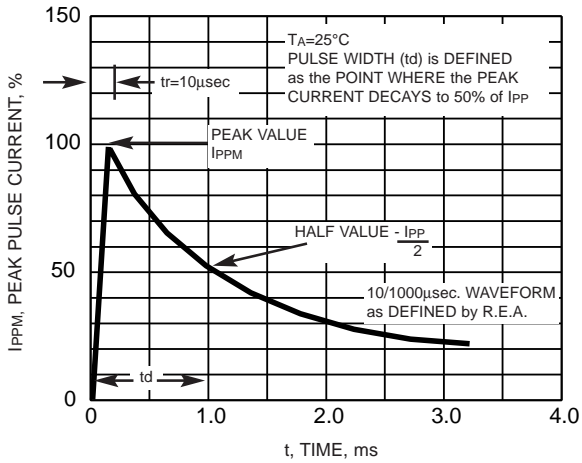


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

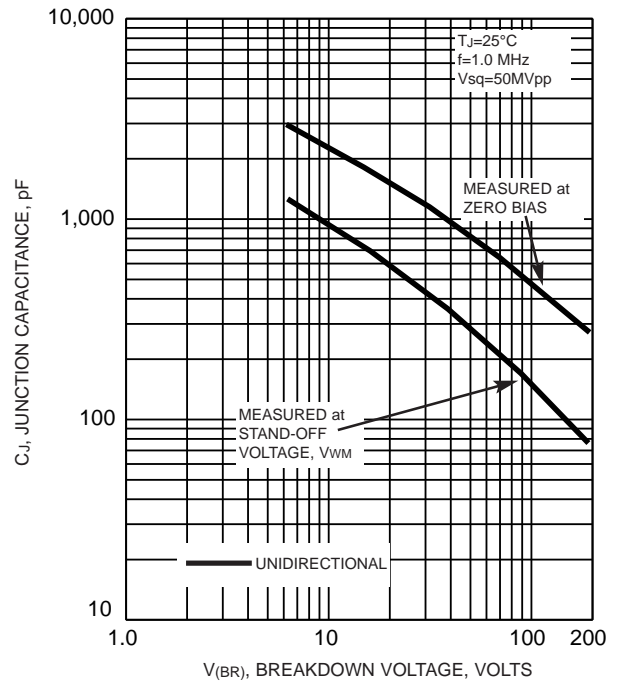


FIG. 5 - STEADY STATE POWER DERATING CURVE

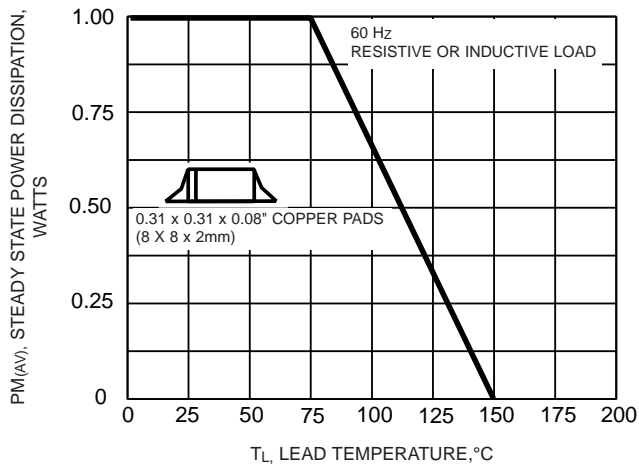


FIG. 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY

