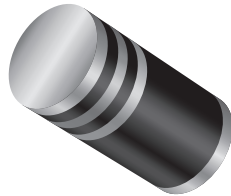


**TRANSZorb® Transient Voltage Suppressors****GL41 (DO-213AB)****FEATURES**

- Plastic MELF package
- Ideal for automated placement
- Glass passivated pallet chip junction
- Available in unidirectional polarity only
- 400 W peak pulse power capability with a 10/1000  $\mu$ s waveform, repetitive rate (duty cycle): 0.01 %
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

**RoHS**  
COMPLIANT**TYPICAL APPLICATIONS**

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, and telecommunication.

**MECHANICAL DATA****Case:** GL41 (DO-213AB)

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS compliant, commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

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

<b>PRIMARY CHARACTERISTICS</b>	
$V_{BR}$ unidirectional	6.45 V to 210 V
$V_{WM}$	5.8 V to 171 V
$P_{PPM}$	400 W, 200 W
$P_D$	1.0 W
$I_{FSM}$	40 A
$T_J$ max.	150 °C
Polarity	Unidirectional
Package	GL41 (DO-213AB)

<b>MAXIMUM RATINGS</b> ( $T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power dissipation with a 10/1000 $\mu$ s waveform <sup>(1)</sup> (fig. 1)	$P_{PPM}$	400	W
Power dissipation on infinite heatsink at $T_L = 75$ °C	$P_D$	1.0	W
Peak pulse current with a 10/1000 $\mu$ s waveform <sup>(1)</sup> (fig. 3)	$I_{PPM}$	See next table	A
Peak forward surge current, 8.3 ms half sine-wave unidirectional only <sup>(2)</sup>	$I_{FSM}$	40	A
Maximum instantaneous forward voltage at 25 A for unidirectional only	$V_F$	3.5	V
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150	°C

**Notes**

<sup>(1)</sup> Non-repetitive current pulse, per fig. 3 and derated above  $T_A = 25$  °C per fig. 2. Rating is 200 W above 91 V

<sup>(2)</sup> Measured at 8.3 ms single half sine-wave or equivalent square wave duty cycle = 4 pulses per minute maximum

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

DEVICE TYPE	BREAKDOWN VOLTAGE $V_{BR}^{(1)}$ (V)		TEST CURRENT $I_T$ (mA)	STAND-OFF VOLTAGE $V_{WM}$ (V)	MAXIMUM REVERSE LEAKAGE AT $V_{WM}$ $I_D$ ( $\mu\text{A}$ )	MAXIMUM PEAK PULSE CURRENT $I_{PPM}^{(2)}$ (A)	MAXIMUM CLAMPING VOLTAGE AT $I_{PPM}$ $V_C$ (V)	MAXIMUM TEMPERATURE COEFFICIENT OF $V_{BR}$ ( $\%/^\circ\text{C}$ )
	MIN.	MAX.						
TGL41-6.8A	6.45	7.14	10	5.80	1000	38.1	10.5	0.060
TGL41-7.5A	7.13	7.88	10	6.40	500	35.4	11.3	0.064
TGL41-8.2A	7.79	8.61	10	7.02	200	33.1	12.1	0.068
TGL41-9.1A	8.65	9.55	1.0	7.78	50.0	29.9	13.4	0.071
TGL41-10A	9.5	10.5	1.0	8.55	10.0	27.6	14.5	0.076
TGL41-11A	10.5	11.6	1.0	9.40	5.0	25.6	15.6	0.078
TGL41-12A	11.4	12.6	1.0	10.2	5.0	24.0	16.7	0.081
TGL41-13A	12.4	13.7	1.0	11.1	5.0	22.0	18.2	0.084
TGL41-15A	14.3	15.8	1.0	12.8	5.0	18.9	21.2	0.087
TGL41-16A	15.2	16.8	1.0	13.6	5.0	17.8	22.5	0.089
TGL41-18A	17.1	18.9	1.0	15.3	5.0	15.9	25.2	0.091
TGL41-20A	19.0	21.0	1.0	17.1	5.0	14.4	27.7	0.093
TGL41-22A	20.9	23.1	1.0	18.8	5.0	13.1	30.6	0.095
TGL41-24A	22.8	25.2	1.0	20.5	5.0	12.0	33.2	0.097
TGL41-27A	25.7	28.4	1.0	23.1	5.0	10.7	37.5	0.099
TGL41-30A	28.5	31.5	1.0	25.6	5.0	9.7	41.4	0.100
TGL41-33A	31.4	34.7	1.0	28.2	5.0	8.8	45.7	0.101
TGL41-36A	34.2	37.8	1.0	30.8	5.0	8.0	49.9	0.102
TGL41-39A	37.1	41.0	1.0	33.3	5.0	7.4	53.9	0.103
TGL41-43A	40.9	45.2	1.0	36.8	5.0	6.7	59.3	0.104
TGL41-47A	44.7	49.4	1.0	40.2	5.0	6.2	64.8	0.104
TGL41-51A	48.5	53.6	1.0	43.6	5.0	5.7	70.1	0.105
TGL41-56A	53.2	58.8	1.0	47.8	5.0	5.2	77.0	0.106
TGL41-62A	58.9	65.1	1.0	53.0	5.0	4.7	85.0	0.107
TGL41-68A	64.6	71.4	1.0	58.1	5.0	4.3	92.0	0.107
TGL41-75A	71.3	78.8	1.0	64.1	5.0	3.9	103	0.108
TGL41-82A	77.9	86.1	1.0	70.1	5.0	3.5	113	0.108
TGL41-91A	86.5	95.5	1.0	77.8	5.0	3.2	125	0.109
TGL41-100A	95.0	105	1.0	85.5	5.0	1.46	137	0.109
TGL41-110A	105	116	1.0	94.0	5.0	1.32	152	0.110
TGL41-120A	114	126	1.0	102	5.0	1.21	165	0.110
TGL41-130A	124	137	1.0	111	5.0	1.12	179	0.110
TGL41-150A	143	158	1.0	128	5.0	0.97	207	0.111
TGL41-160A	152	168	1.0	136	5.0	0.91	219	0.111
TGL41-170A	162	179	1.0	145	5.0	0.85	234	0.111
TGL41-180A	171	189	1.0	154	5.0	0.81	246	0.111
TGL41-200A	190	210	1.0	171	5.0	0.73	274	0.111

**Notes**

- (1) Pulse test:  $t_p \leq 50$  ms  
 (2) Surge current waveform per fig. 3 and derate per fig. 2  
 (2) All terms and symbols are consistent with ANSI/IEEE C62.35

**ORDERING INFORMATION** (Example)

PREFERRED PIN	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TGL41-6.8A-E3/96	0.134	96	1500	7" diameter plastic tape and reel
TGL41-6.8A-E3/97	0.134	97	5000	13" diameter plastic tape and reel



**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

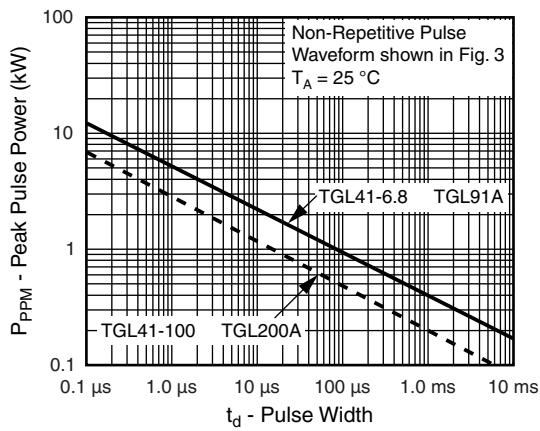


Fig. 1 - Peak Pulse Power Rating Curve

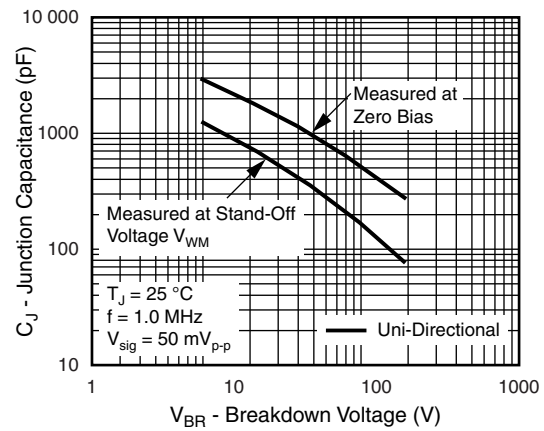


Fig. 4 - Typical Junction Capacitance

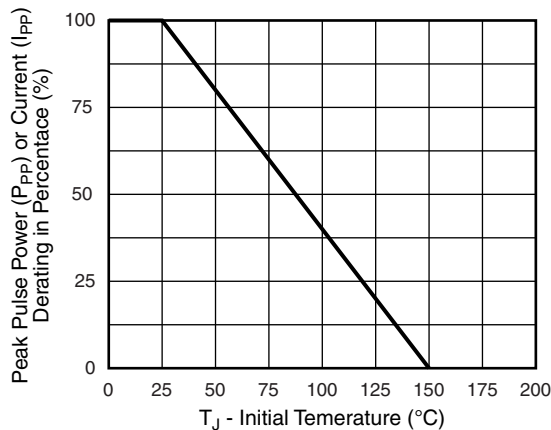


Fig. 2 - Pulse Power or Current vs. Initial Junction Temperature

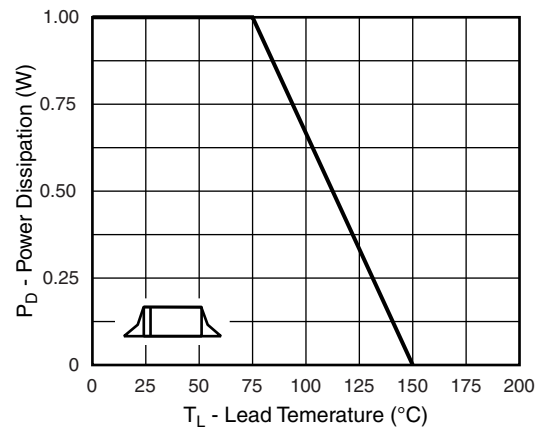


Fig. 5 - Power Derating Curve

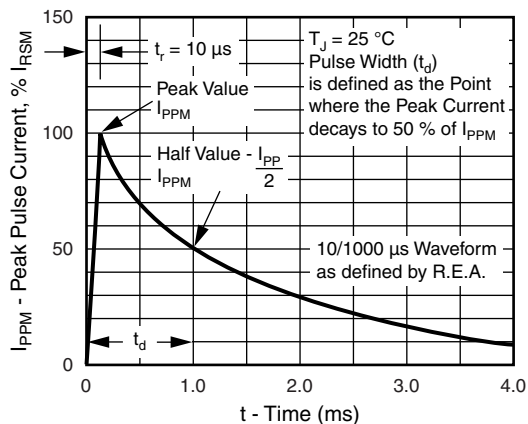


Fig. 3 - Pulse Waveform

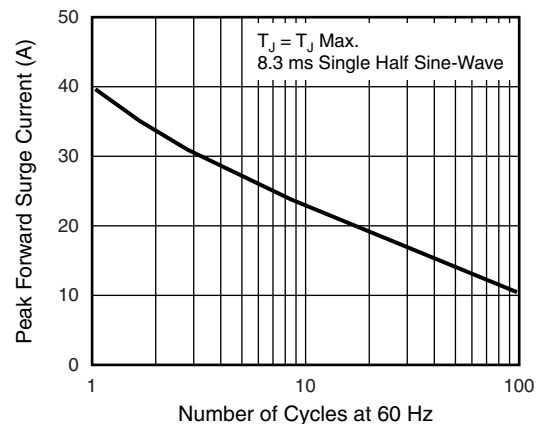
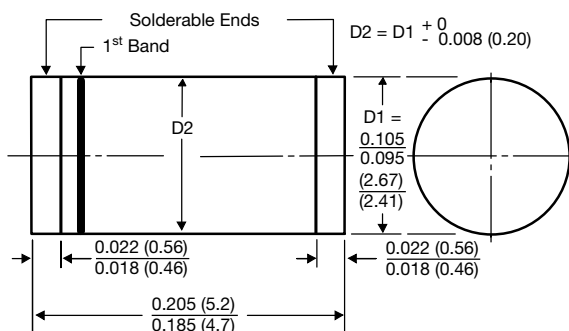


Fig. 6 - Maximum Non-Repetitive Peak Forward Surge Current Unidirectional Only



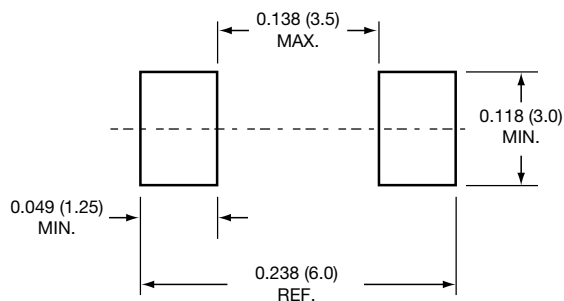
**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**GL41 (DO-213AB)**



1<sup>st</sup> band denotes type and positive end (cathode)

**Mounting Pad Layout**





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