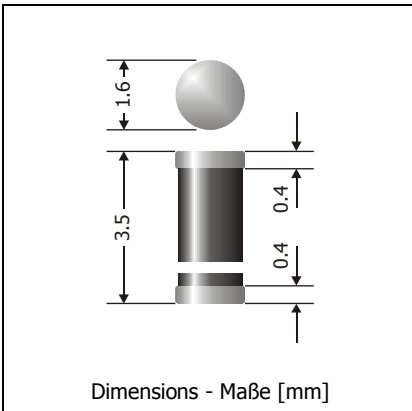


TGL34-6.8 ... TGL34-200CA

**Surface mount unidirectional and bidirectional Transient Voltage Suppressor Diodes
Unidirektionale und bidirektionale Spannungs-Begrenzer-Dioden für die Oberflächenmontage**

Version 2012-10-10



| | |
|---|-------------|
| Peak pulse power dissipation Maximale Verlustleistung | 150 W |
| Nominal breakdown voltage Nominale Abbruch-Spannung | 6.8...200 V |
| Plastic case MiniMELF – Kunststoffgehäuse MiniMELF | DO-213AA |
| Weight approx. – Gewicht ca. | 0.04 g |
| Plastic material has UL classification 94V-0 Gehäusematerial UL94V-0 klassifiziert | |
| Standard packaging taped and reeled Standard Lieferform gegurtet auf Rolle | |



Marking: One blue ring denotes "cathode" and "TVS-Diode family" at unidirectional devices
The type numbers are noted only on the label on the reel

Kennzeichnung: Ein blauer Ring kennzeichnet "Kathode" und "TVS-Dioden-Familie" bei unidirektionalen Bauteilen. Die Typenbezeichnungen sind nur auf dem Rollenaufkleber vermerkt

For bidirectional types (add suffix "C" or "CA"), electrical characteristics apply in both directions.
Für bidirektionale Dioden (ergänze Suffix "C" oder "CA") gelten die elektrischen Werte in beiden Richtungen.

Maximum ratings and Characteristics

Grenz- und Kennwerte

| | | | |
|--|--------------------------|----------------|------------------------------|
| Peak pulse power dissipation (10/1000 μ s waveform) Impuls-Verlustleistung (Strom-Impuls 10/1000 μ s) | $T_A = 25^\circ\text{C}$ | P_{PPM} | 150 W ¹⁾ |
| Steady state power dissipation Verlustleistung im Dauerbetrieb | $T_A = 75^\circ\text{C}$ | $P_{M(AV)}$ | 1 W ²⁾ |
| Peak forward surge current, 60 Hz half sine-wave Stoßstrom für eine 60 Hz Sinus-Halbwellen | $T_A = 25^\circ\text{C}$ | I_{FSM} | 20 A ³⁾ |
| Max. instantaneous forward voltage Augenblickswert der Durchlass-Spannung | $I_F = 10 \text{ A}$ | V_F | < 3.5 V ³⁾ |
| Junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur | | T_j T_s | -50...+150°C -50...+150°C |
| Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft | | R_{thA} | < 75 K/W ²⁾ |
| Thermal resistance junction to terminal Wärmewiderstand Sperrschicht – Anschluss | | R_{thT} | < 40 K/W |

1 Non-repetitive pulse see curve $I_{pp} = f(t) / P_{pp} = f(t)$
Höchstzulässiger Spitzenwert eines einmaligen Impulses, siehe Kurve $I_{pp} = f(t) / P_{pp} = f(t)$
2 Mounted on P.C. board with 25 mm² copper pads at each terminal
Montage auf Leiterplatte mit 25 mm² Kupferbelag (Löt-pad) an jedem Anschluss
3 Unidirectional diodes only – Nur für unidirektionale Dioden

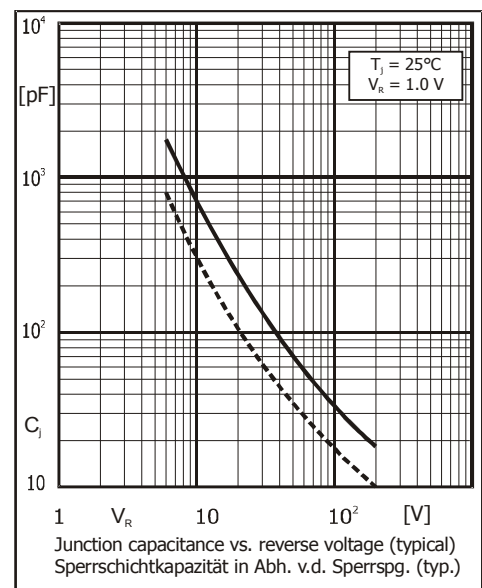
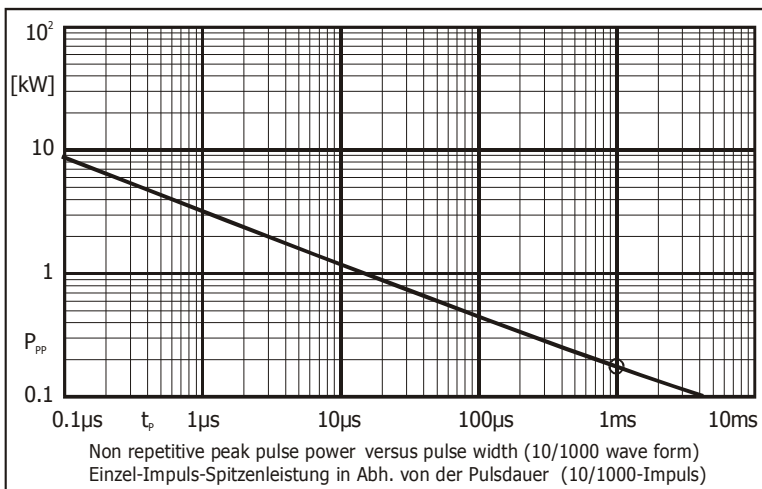
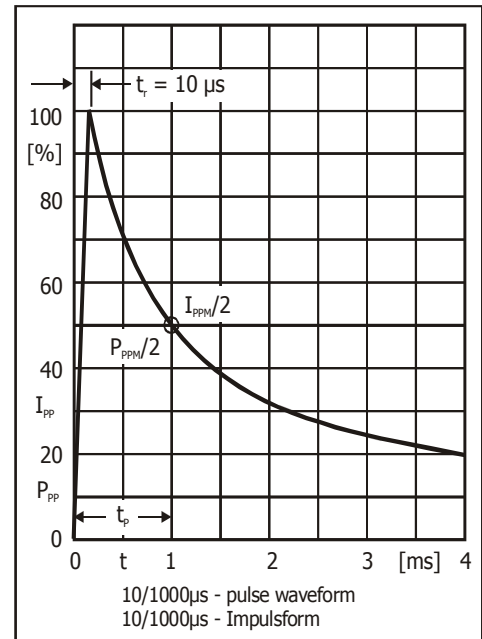
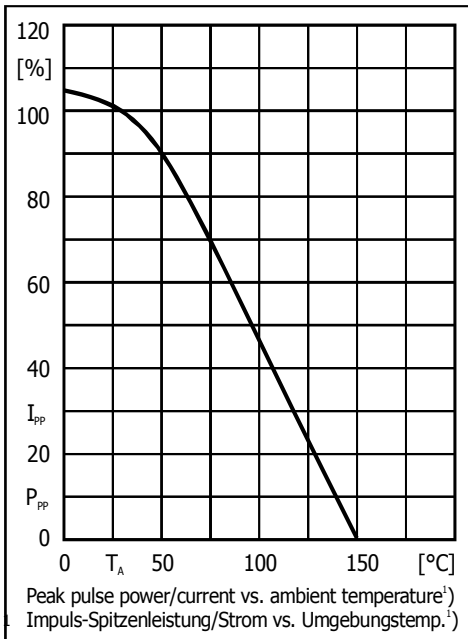
Maximum ratings
Grenzwerte

| Type Typ | Breakdown voltage at $I_T = 1$ mA Abbruch-Spannung bei $I_T = 1$ mA *) at / bei $I_T = 10$ mA | | Stand-off voltage Sperrspannung | Max. rev. current Max. Sperrstrom at / bei V_{WM} | Max. clamping voltage Max. Begrenzer-Spannung at / bei I_{PPM} (10/1000 μ s) | |
|-------------|---|----------------|------------------------------------|---|--|------------------|
| | V_{BR} [V] | | | | V_{WM} [V] | I_D [μ A] |
| TGL34-6.8 | 6.8 \pm 10% | 6.12...7.48 *) | 5.5 | 1000 | 10.8 | 13.9 |
| TGL34-6.8A | 6.8 \pm 5% | 6.45...7.14 *) | 5.8 | 1000 | 10.5 | 14.3 |
| TGL34-7.5 | 7.5 \pm 10% | 6.75...8.25 *) | 6.0 | 500 | 11.7 | 12.8 |
| TGL34-7.5A | 7.5 \pm 5% | 7.13...7.88 *) | 6.4 | 500 | 11.3 | 13.3 |
| TGL34-8.2 | 8.2 \pm 10% | 7.38...9.02 *) | 6.6 | 200 | 12.5 | 12.0 |
| TGL34-8.2A | 8.2 \pm 5% | 7.79...8.61 *) | 7.0 | 200 | 12.1 | 12.4 |
| TGL34-9.1 | 9.1 \pm 10% | 8.19...10.0 | 7.3 | 50 | 13.8 | 10.9 |
| TGL34-9.1A | 9.1 \pm 5% | 8.65...9.55 | 7.7 | 50 | 13.4 | 11.2 |
| TGL34-10 | 10 \pm 10% | 9.0...11.0 | 8.1 | 10 | 15.0 | 10.0 |
| TGL34-10A | 10 \pm 5% | 9.5...10.5 | 8.5 | 10 | 14.5 | 10.3 |
| TGL34-11 | 11 \pm 10% | 9.9...12.1 | 8.9 | 5 | 16.2 | 9.3 |
| TGL34-11A | 11 \pm 5% | 10.5...11.6 | 9.4 | 5 | 15.6 | 9.6 |
| TGL34-12 | 12 \pm 10% | 10.8...13.2 | 9.7 | 5 | 17.3 | 8.7 |
| TGL34-12A | 12 \pm 5% | 11.4...12.6 | 10.2 | 5 | 16.7 | 9.0 |
| TGL34-13 | 13 \pm 10% | 11.7...14.3 | 10.5 | 5 | 19.0 | 7.9 |
| TGL34-13A | 13 \pm 5% | 12.4...13.7 | 11.1 | 5 | 18.2 | 8.2 |
| TGL34-15 | 15 \pm 10% | 13.5...16.5 | 12.1 | 5 | 22.0 | 6.8 |
| TGL34-15A | 15 \pm 5% | 14.3...15.8 | 12.8 | 5 | 21.2 | 7.1 |
| TGL34-16 | 16 \pm 10% | 14.4...17.6 | 12.9 | 5 | 23.5 | 6.4 |
| TGL34-16A | 16 \pm 5% | 15.2...16.8 | 13.6 | 5 | 22.5 | 6.7 |
| TGL34-18 | 18 \pm 10% | 16.2...19.8 | 14.5 | 5 | 26.5 | 5.7 |
| TGL34-18A | 18 \pm 5% | 17.1...18.9 | 15.3 | 5 | 25.2 | 6.0 |
| TGL34-20 | 20 \pm 10% | 18.0...22.0 | 16.2 | 5 | 29.1 | 5.2 |
| TGL34-20A | 20 \pm 5% | 19.0...21.0 | 17.1 | 5 | 27.7 | 5.4 |
| TGL34-22 | 22 \pm 10% | 19.8...24.2 | 17.8 | 5 | 31.9 | 4.7 |
| TGL34-22A | 22 \pm 5% | 20.9...23.1 | 18.8 | 5 | 30.6 | 4.9 |
| TGL34-24 | 24 \pm 10% | 21.6...26.4 | 19.4 | 5 | 34.7 | 4.3 |
| TGL34-24A | 24 \pm 5% | 22.8...25.2 | 20.5 | 5 | 33.2 | 4.5 |
| TGL34-27 | 27 \pm 10% | 24.3...29.7 | 21.8 | 5 | 39.1 | 3.8 |
| TGL34-27A | 27 \pm 5% | 25.7...28.4 | 23.1 | 5 | 37.5 | 4.0 |
| TGL34-30 | 30 \pm 10% | 27.0...33.0 | 24.3 | 5 | 43.5 | 3.4 |
| TGL34-30A | 30 \pm 5% | 28.5...31.5 | 25.6 | 5 | 41.4 | 3.6 |
| TGL34-33 | 33 \pm 10% | 29.7...36.3 | 26.8 | 5 | 47.7 | 3.1 |
| TGL34-33A | 33 \pm 5% | 31.4...34.7 | 28.2 | 5 | 45.7 | 3.3 |
| TGL34-36 | 36 \pm 10% | 32.4...39.6 | 29.1 | 5 | 52.0 | 2.9 |
| TGL34-36A | 36 \pm 5% | 34.2...37.8 | 30.8 | 5 | 49.9 | 3.0 |
| TGL34-39 | 39 \pm 10% | 35.1...42.9 | 31.6 | 5 | 56.4 | 2.7 |
| TGL34-39A | 39 \pm 5% | 37.1...41.0 | 33.3 | 5 | 53.9 | 2.8 |

Maximum ratings**Grenzwerte**

| Type Typ | Breakdown voltage at $I_T = 1$ mA Abbruch-Spannung bei $I_T = 1$ mA *) at / bei $I_T = 10$ mA | | Stand-off voltage Sperrspannung | Max. rev. current Max. Sperrstrom at / bei V_{WM} | Max. clamping voltage Max. Begrenzer-Spannung at / bei I_{PPM} (10/1000 μ s) | |
|-------------|---|-------------|------------------------------------|---|--|------------------|
| | V_{BR} [V] | | | | V_{WM} [V] | I_D [μ A] |
| TGL34-43 | 43 \pm 10% | 38.7...47.3 | 34.8 | 5 | 61.9 | 2.4 |
| TGL34-43A | 43 \pm 5% | 40.9...45.2 | 36.8 | 5 | 59.3 | 2.5 |
| TGL34-47 | 47 \pm 10% | 42.3...51.7 | 38.1 | 5 | 67.8 | 2.2 |
| TGL34-47A | 47 \pm 5% | 44.7...49.4 | 40.2 | 5 | 64.8 | 2.3 |
| TGL34-51 | 51 \pm 10% | 45.9...56.1 | 41.3 | 5 | 73.5 | 2.0 |
| TGL34-51A | 51 \pm 5% | 48.5...53.6 | 43.6 | 5 | 70.1 | 2.1 |
| TGL34-56 | 56 \pm 10% | 50.4...61.6 | 45.4 | 5 | 81 | 1.9 |
| TGL34-56A | 56 \pm 5% | 53.2...58.8 | 47.8 | 5 | 77 | 1.9 |
| TGL34-62 | 62 \pm 10% | 55.8...68.8 | 50.2 | 5 | 89 | 1.7 |
| TGL34-62A | 62 \pm 5% | 58.9...65.1 | 53.0 | 5 | 85 | 1.8 |
| TGL34-68 | 68 \pm 10% | 61.2...74.8 | 55.1 | 5 | 98 | 1.5 |
| TGL34-68A | 68 \pm 5% | 64.6...71.4 | 58.1 | 5 | 92 | 1.6 |
| TGL34-75 | 75 \pm 10% | 67.5...82.5 | 60.7 | 5 | 108 | 1.4 |
| TGL34-75A | 75 \pm 5% | 71.3...78.8 | 64.1 | 5 | 103 | 1.5 |
| TGL34-82 | 82 \pm 10% | 73.8...90.2 | 66.4 | 5 | 118 | 1.3 |
| TGL34-82A | 82 \pm 5% | 77.9...86.1 | 70.1 | 5 | 113 | 1.3 |
| TGL34-91 | 91 \pm 10% | 81.9...100 | 73.7 | 5 | 131 | 1.1 |
| TGL34-91A | 91 \pm 5% | 86.5...95.5 | 77.8 | 5 | 125 | 1.2 |
| TGL34-100 | 100 \pm 10% | 90.0...110 | 81.0 | 5 | 144 | 1.0 |
| TGL34-100A | 100 \pm 5% | 95.0...105 | 85.5 | 5 | 137 | 1.1 |
| TGL34-110 | 110 \pm 10% | 99.0...121 | 89.2 | 5 | 158 | 0.9 |
| TGL34-110A | 110 \pm 5% | 105...116 | 94.0 | 5 | 152 | 1.0 |
| TGL34-120 | 120 \pm 10% | 108...132 | 97.2 | 5 | 173 | 0.9 |
| TGL34-120A | 120 \pm 5% | 114...126 | 102 | 5 | 165 | 0.9 |
| TGL34-130 | 130 \pm 10% | 117...143 | 105 | 5 | 187 | 0.8 |
| TGL34-130A | 130 \pm 5% | 124...137 | 111 | 5 | 179 | 0.8 |
| TGL34-150 | 150 \pm 10% | 135...165 | 121 | 5 | 215 | 0.7 |
| TGL34-150A | 150 \pm 5% | 143...158 | 128 | 5 | 207 | 0.7 |
| TGL34-160 | 160 \pm 10% | 144...176 | 130 | 5 | 230 | 0.7 |
| TGL34-160A | 160 \pm 5% | 152...168 | 136 | 5 | 219 | 0.7 |
| TGL34-170 | 170 \pm 10% | 153...187 | 138 | 5 | 244 | 0.6 |
| TGL34-170A | 170 \pm 5% | 162...179 | 145 | 5 | 234 | 0.6 |
| TGL34-180 | 180 \pm 10% | 162...198 | 146 | 5 | 258 | 0.6 |
| TGL34-180A | 180 \pm 5% | 171...189 | 154 | 5 | 246 | 0.6 |
| TGL34-200 | 200 \pm 10% | 180...220 | 162 | 5 | 287 | 0.5 |
| TGL34-200A | 200 \pm 5% | 190...210 | 171 | 5 | 274 | 0.5 |

For bidirectional types (suffix "C" or "CA"), electrical characteristics apply in both directions.
Für bidirektionale Dioden (Suffix "C" oder "CA") gelten die elektrischen Werte in beiden Richtungen.



The range of type numbers is graded to the international E 24 standard. The standard tolerance of the breakdown voltage for each type is $\pm 10\%$. Suffix "A" denotes a tolerance of $\pm 5\%$ for the breakdown voltage.

e.g.: TGL34-51C = bidirectional diode, $V_{BR} = 51 \text{ V}$ ($\pm 10\%$), $V_{WM} \geq 41.3 \text{ V}$ at $I_D = 5 \mu\text{A}$
TGL34-9.1A = unidirectional diode, $V_{BR} = 9.1 \text{ V}$ ($\pm 5\%$), $V_{WM} \geq 7.7 \text{ V}$ at $I_D = 50 \mu\text{A}$

Die Abstufung der Typen innerhalb der Reihe entspricht dem internationalen E 24-Standard. Die Toleranz der Abbruchspannung jedes einzelnen Typs beträgt in der Standardausführung $\pm 10\%$. Suffix "A" kennzeichnet eine Toleranz der Abbruchspannung von $\pm 5\%$.

1 Mounted on P.C. board with 25 mm² copper pads at each terminal
Montage auf Leiterplatte mit 25 mm² Kupferbelag (Löt-pad) an jedem Anschluss