

Silicon TVS diodes Array

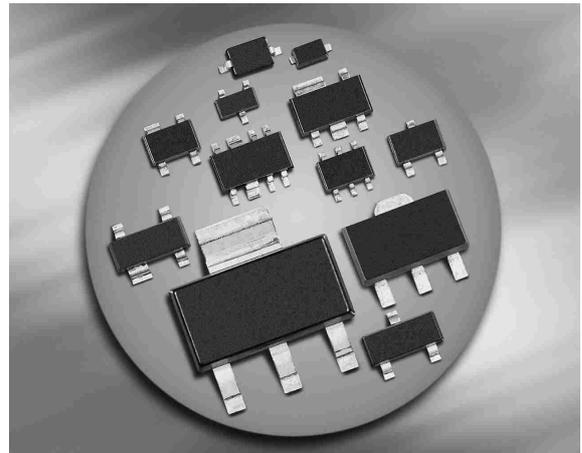
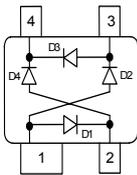
- ESD / transient protection of e.g. ADSL, VDSL, ISDN, WAN, LAN, I²C Bus, Microcontroller Inputs, Video and other high-speed data lines in telecom applications:

IEC61000-4-2 (ESD): ± 15 kV (Air / Contact)

IEC61000-4-4 (EFT): 4 kV / 80 A (5/50 ns)

IEC61000-4-5 (Lightning): 27 A (8/20 μ s)

- Very low capacitance
- Extremely low reverse current < 5 nA
- Pb-free (RoHS compliant) package


DSL70


| Type | Package | Configuration | Marking |
|-------|---------|-------------------------|---------|
| DSL70 | SOT143 | 2 channel, rail to rail | E4s |

Maximum Ratings at $T_A = 25^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Value | Unit |
|---|------------------|-----------|------|
| ESD contact discharge per diode ¹⁾ | V_{ESD} | 15 | kV |
| Peak pulse current ($t_p = 8 / 20 \mu\text{s}$) ²⁾ | I_{pp} | 27 | A |
| Peak pulse power ($t_p = 8 / 20 \mu\text{s}$) | P_{pk} | 245 | W |
| Operating temperature range | T_{op} | -55...125 | °C |
| Storage temperature | T_{stg} | -65...150 | |

¹⁾ V_{ESD} according to IEC61000-4-2

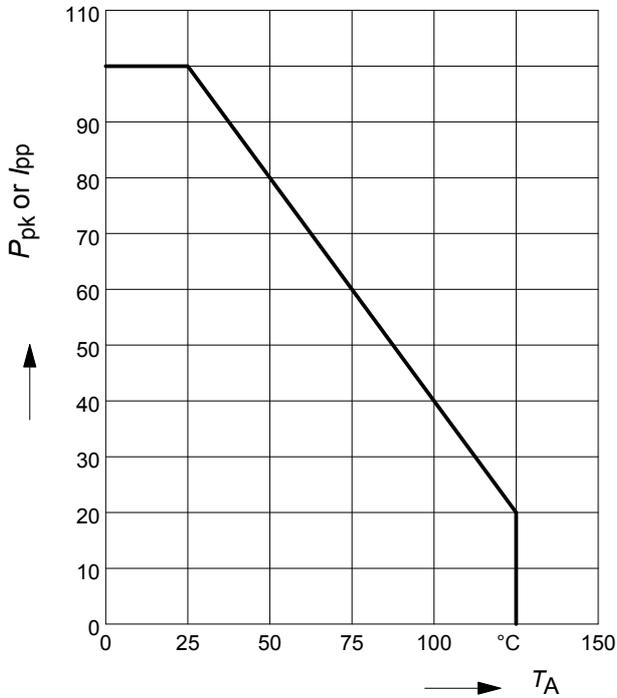
²⁾ I_{pp} according to IEC61000-4-5

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Values | | | Unit |
|---|-----------|--------|--------------------|--------------------|------|
| | | min. | typ. | max. | |
| Characteristics - | | | | | |
| Reverse working voltage | V_{RWM} | - | - | 50 | V |
| Reverse current $V_R = 50\text{ V}$ | I_R | - | - | 5 | nA |
| Forward clamping voltage ¹⁾ $I_{PP} = 1\text{ A}, t_p = 8/20\ \mu\text{s}$ $I_{PP} = 10\text{ A}, t_p = 8/20\ \mu\text{s}$ $I_{PP} = 24\text{ A}, t_p = 8/20\ \mu\text{s}$ $I_{PP} = 27\text{ A}, t_p = 8/20\ \mu\text{s}$ | V_{FC} | - | 1 2.5 5 6 | 1.5 3 6 9 | V |
| Diode capacitance $V_R = 0\text{ V}, f = 1\text{ MHz}$, between I/O and GND $V_R = 0\text{ V}, f = 1\text{ MHz}$, between I/O pins | C_T | - | 2.5 1.25 | 5 2.5 | pF |

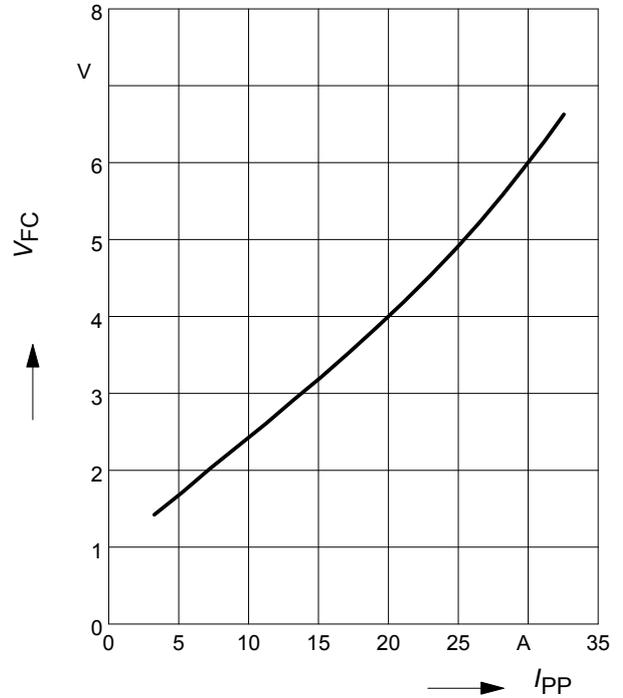
¹⁾ I_{PP} according to IEC61000-4-5

Power derating curve $P_{pk} = f(T_A)$



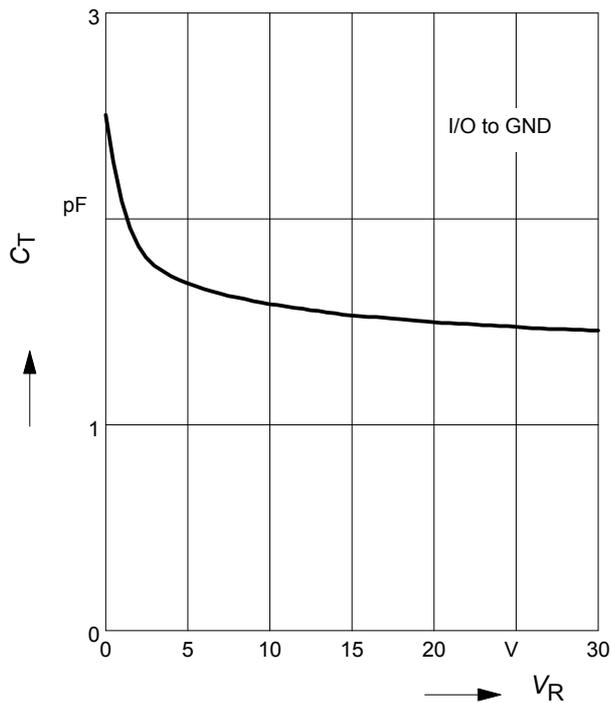
Forward clamping voltage $V_{FC} = f(I_{PP})$

$t_p = 8 / 20 \mu s$

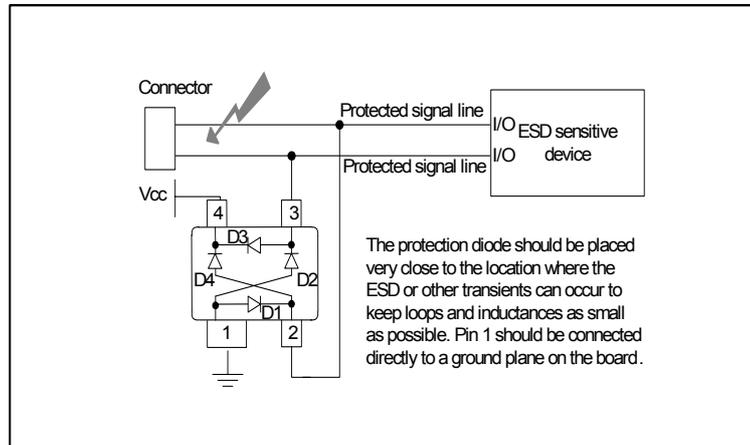


Diode capacitance $C_T = f(V_R)$

$f = 1MHz$



Application example DSL70
dual channel, rail to rail configuration



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