

**Silicon TVS diodes Array**
**Preliminary Data**

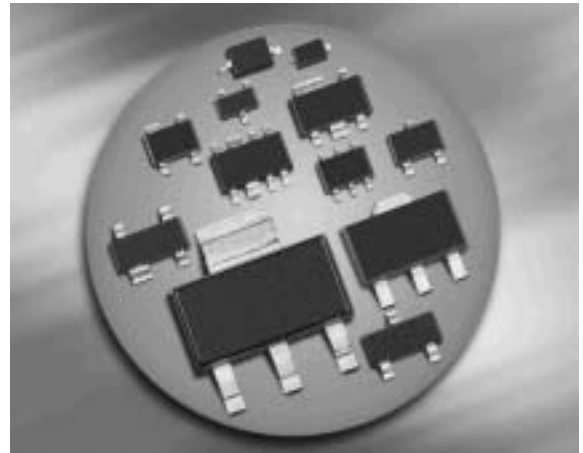
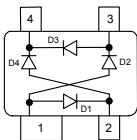
- ESD / transient protection of e.g. ADSL, VDSL, ISDN, WAN, LAN, I<sup>2</sup>C Bus, Microcontroller Inputs, Video and other high-speed data lines in telecom applications:

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 μs)

- Very low capacitance
- Extremely low reverse current < 5 nA
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101


**DSL70**


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

\* Preliminary data

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

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

<sup>1)</sup>  $V_{\text{ESD}}$  according to IEC61000-4-2

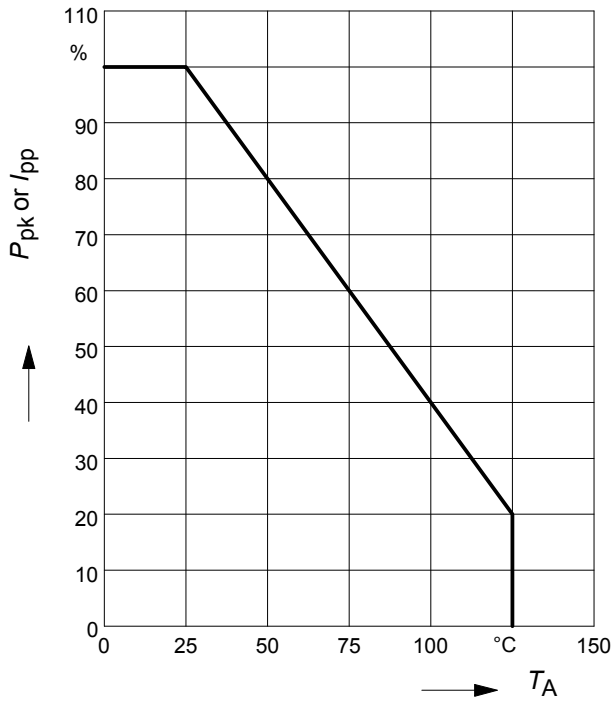
<sup>2)</sup>  $I_{\text{pp}}$  according to IEC61000-4-5

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

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

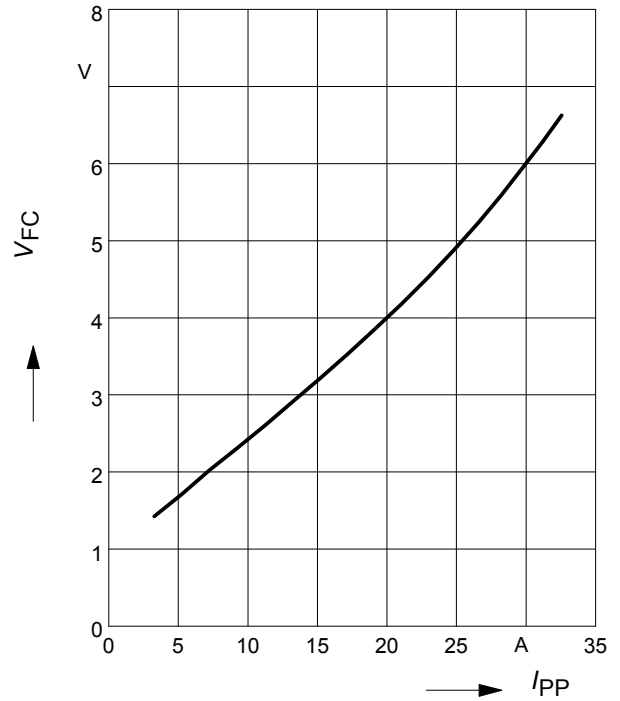
<sup>1)</sup> $I_{PP}$  according to IEC61000-4-5

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



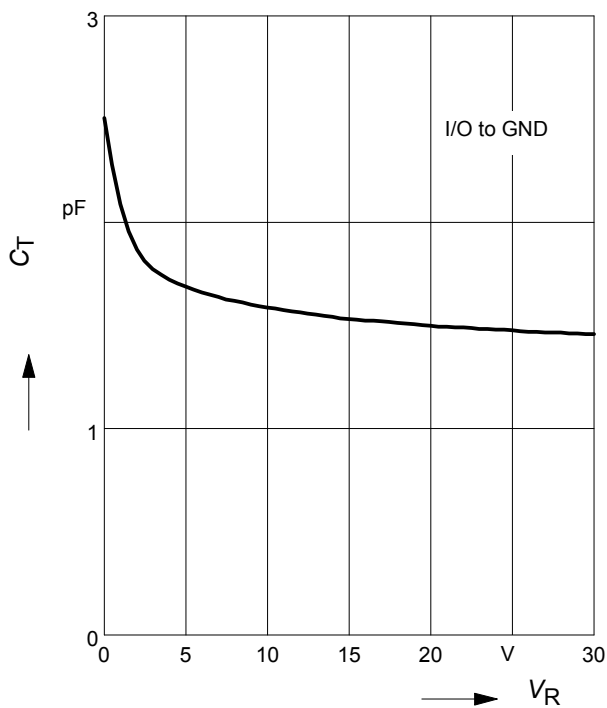
**Forward clamping voltage**  $V_{FC} = f(I_{PP})$

$t_p = 8 / 20 \mu s$

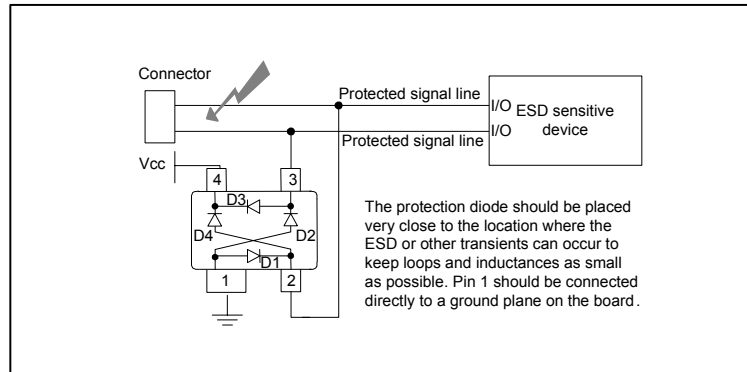


**Diode capacitance**  $C_T = f(V_R)$

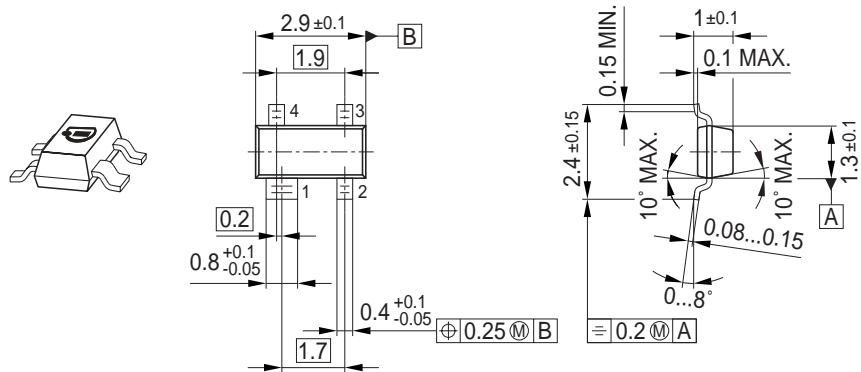
$f = 1MHz$



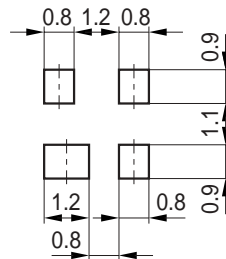
**Application example DSL70**  
 dual channel, rail to rail configuration



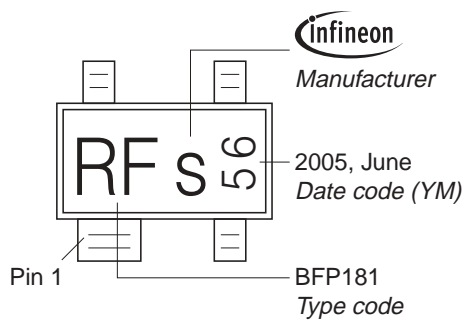
Package Outline



Foot Print



Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel  
 Reel ø330 mm = 10.000 Pieces/Reel



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