

Silicon TVS diodes Array

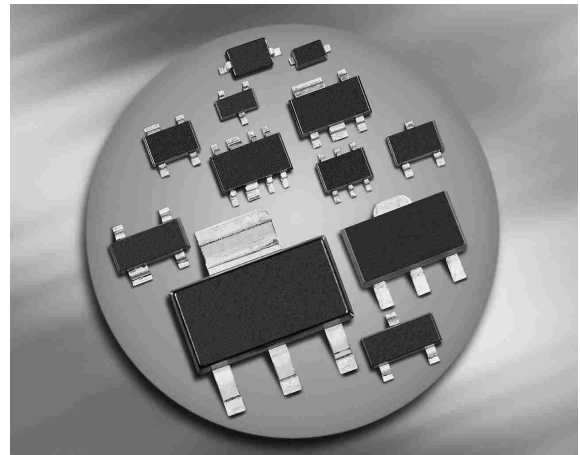
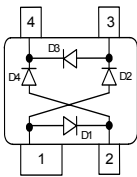
- ESD / transient protection of e.g. ADSL, VDSL, ISDN, WAN, LAN, I²C Bus, Microcontroller Inputs, Video and other high-speed data lines in telecom applications:

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

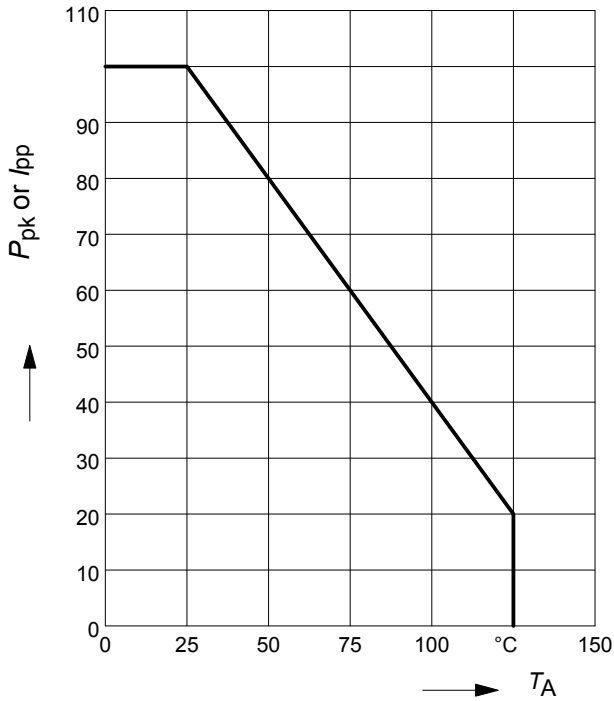
²⁾ I_{pp} according to IEC61000-4-5

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

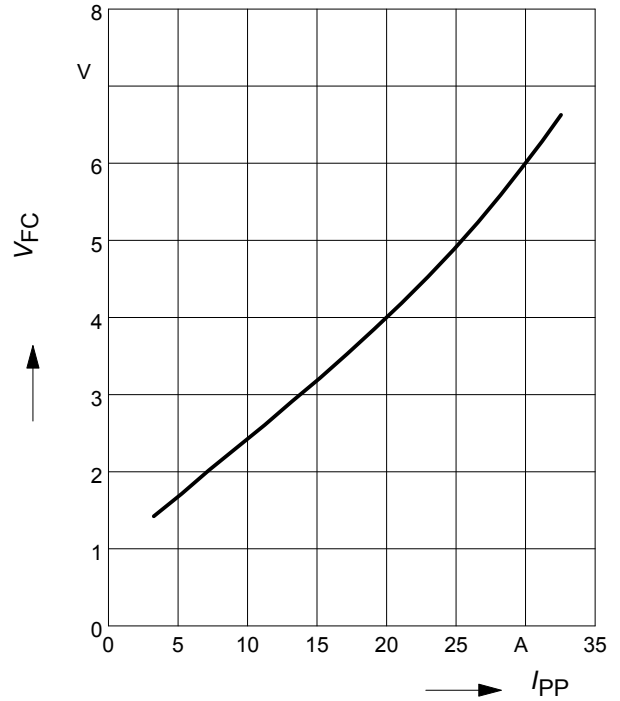
¹⁾ I_{PP} according to IEC61000-4-5

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



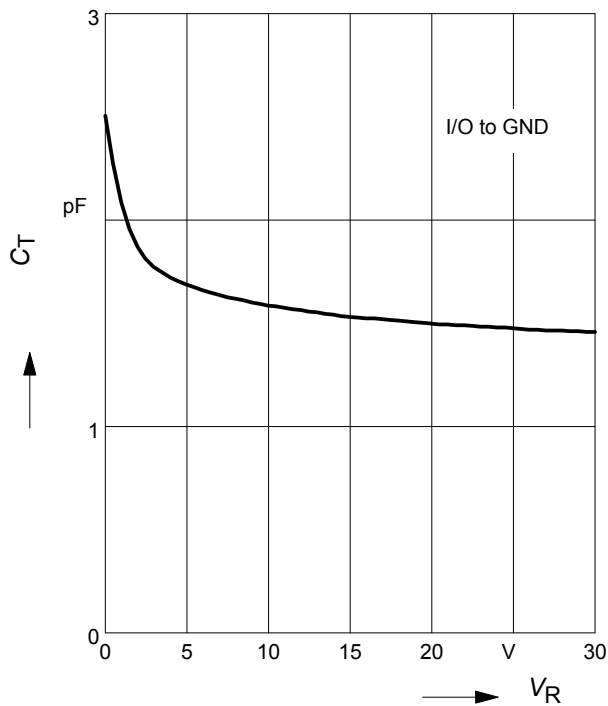
Forward clamping voltage $V_{FC} = f(I_{PP})$

$t_p = 8 / 20 \mu s$

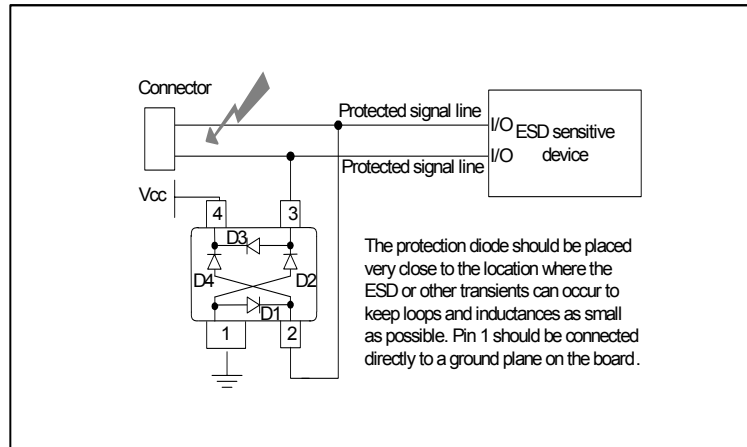


Diode capacitance $C_T = f(V_R)$

$f = 1MHz$



Application example DSL70
dual channel, rail to rail configuration



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