

TVS Diodes

ESDALC6V1M3R

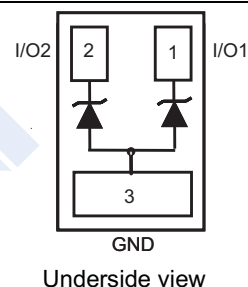
■ Features

- 2 unidirectional low capacitance diodes
- Breakdown Voltage $V_{BR} = 6.1 \text{ V min}$
- Low diode capacitance (11 pF typ at 0 V)
- Low leakage current $< 0.5 \mu\text{A}$
- Very small PCB area: 0.6 mm^2



SOT 883
(JEDEC MO-236AA Compliant)

Configuration



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

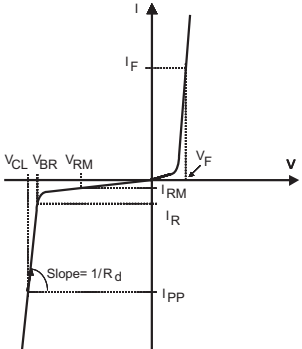
Parameter	Symbol	Value	Unit
IEC 61000-4-2(ESD) Air Contact	V_{PP}	± 15	KV
		± 8.0	
Peak pulse power dissipation (8/20 μs) (Note 1) $T_j \text{ initial} = T_a$	P_{PP}	30	W
Repetitive peak pulse current (8/20 μs)	I_{PP}	3	A
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature range	T_{stg}	-55 to +150	
Maximum lead temperature for soldering during 10s	T_L	260	
Operating temperature range	T_{OP}	-40 to +125	

Note 1. For a surge greater than the maximum values, the diode will fail in short-circuit.

TVS Diodes

ESDALC6V1M3R

■ Electrical Characteristics Ta = 25℃

Symbol	Parameter	
V_{RM}	Stand-off voltage	
V_{BR}	Breakdown voltage	
V_{CL}	Clamping voltage	
I_{RM}	Leakage current @ V_{RM}	
I_{PP}	Peak pulse current	
αT	Voltage temperature coefficient	
V_F	Forward voltage drop	

Parameter	Test condition	Min	Typ	Max	Unit
V_{BR}	$I_R = 1 \text{ mA}$	6.1		7.2	V
I_{RM}	$V_{RM} = 5 \text{ V}$			0.5	μA
R_d			1.1		Ω
αT	$I_R = 1 \text{ mA}$			4.2	$10^{-4}/^\circ\text{C}$
C	$V_R = 0 \text{ V}$, $F = 1 \text{ MHz}$, $V_{OSC} = 30 \text{ mV}$		11		pF

■ Marking

Marking	K
---------	---

TVS Diodes

ESDALC6V1M3R

■ Typical Characteristics

Figure 1. S21 attenuation measurement results of each channel

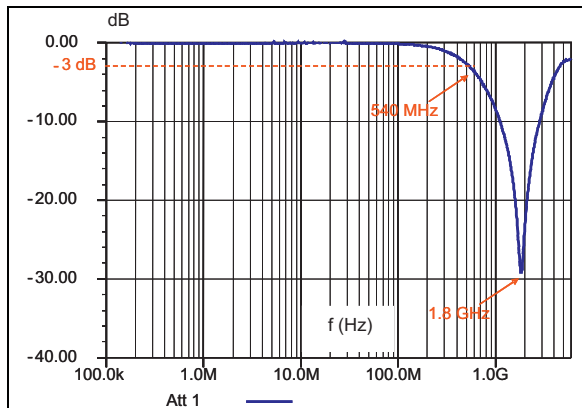


Figure 2. Analog crosstalk measurements between channels

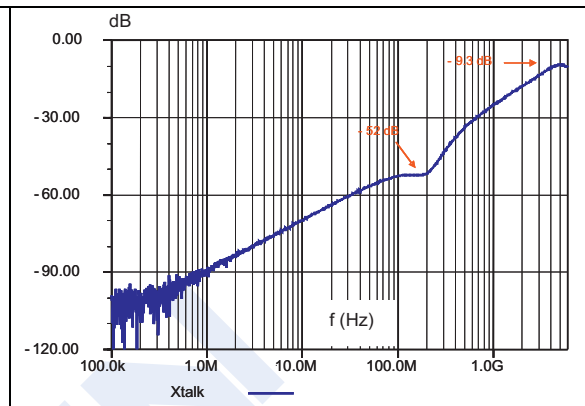


Figure 3. ESD response to IEC61000-4-2 (+15 kV air discharge) on each channel

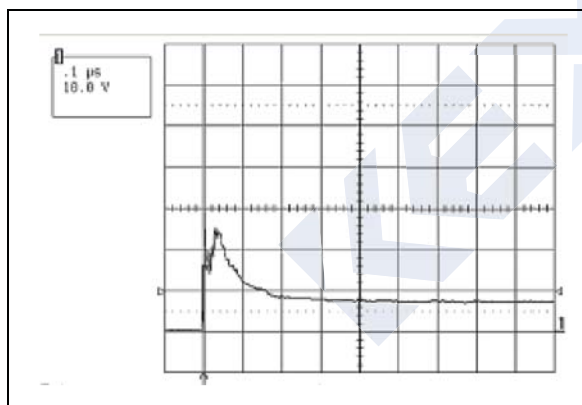


Figure 4. ESD response to IEC61000-4-2 (-15 kV air discharge) on each channel.

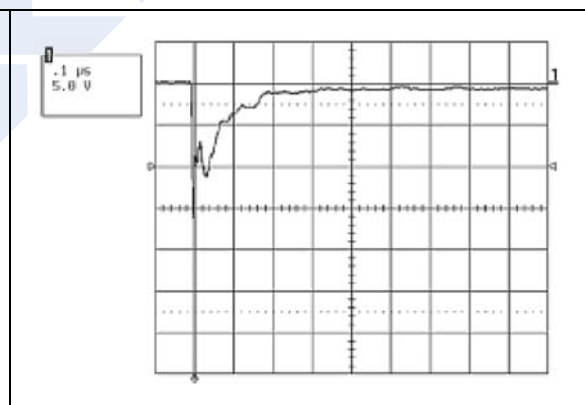


Figure 5. Relative variation of peak pulse power versus initial junction temperature

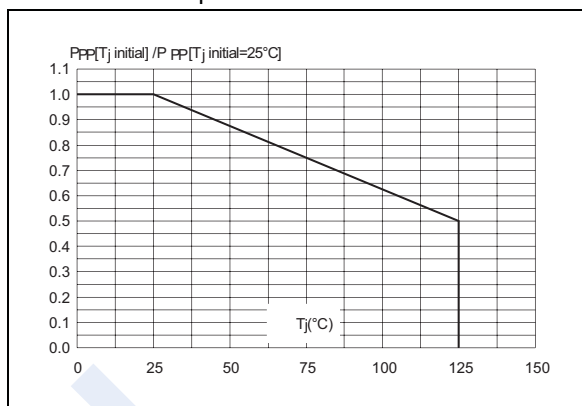
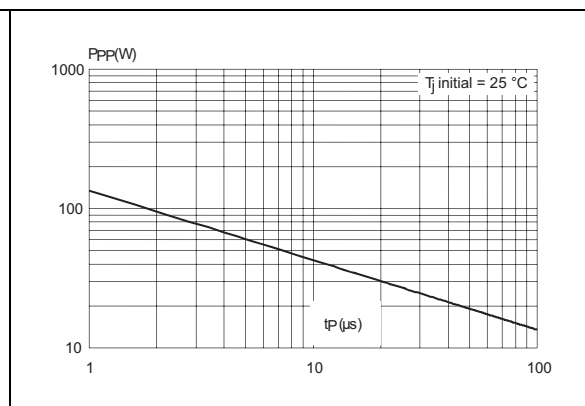


Figure 6. Peak pulse power versus exponential pulse duration



TVS Diodes

ESDALC6V1M3R

■ Typical Characteristics Continued

Figure 7. Clamping voltage versus peak pulse current (typical values)

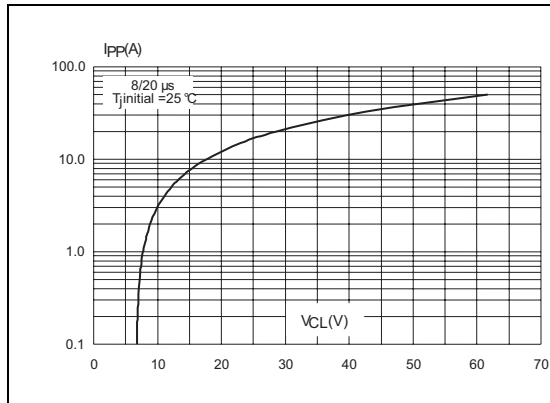


Figure 8. Forward voltage drop versus peak forward current (typical values)

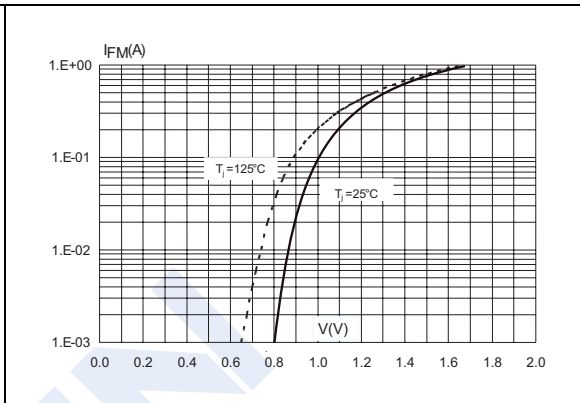


Figure 9. Junction capacitance versus reverse voltage applied (typical values)

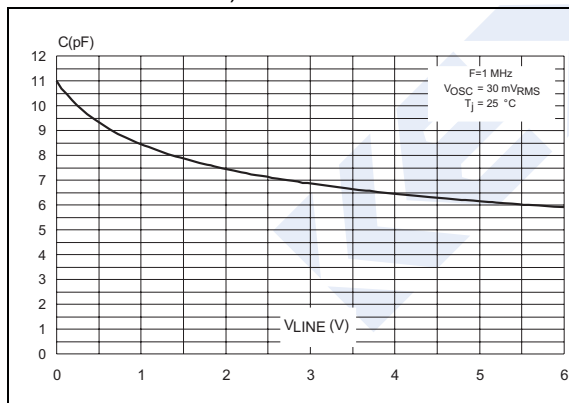
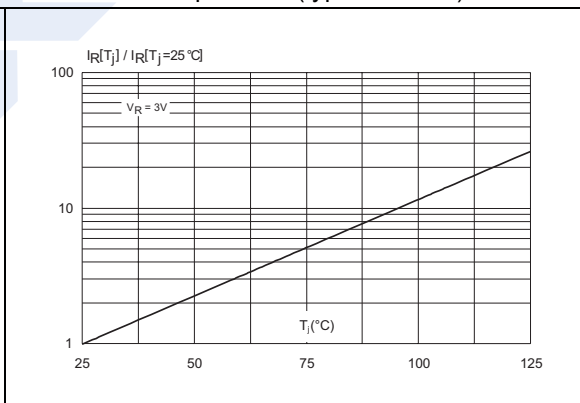


Figure 10. Relative variation of leakage current versus junction temperature (typical values)



TVS Diodes

ESDALC6V1M3R

■ Package Outline Dimensions

SOT883 Dimensions

Ref.	Dimensions					
	Millimetres			Inches		
	Min	Typ	Max	Min	Typ	Max
A	0.45		0.52	0.18		0.2
A1	0.00		0.05	0.00		0.02
b	0.10	0.15	0.20	0.04	0.06	0.08
b1	0.45	0.50	0.55	0.18	0.20	0.22
D		0.60			0.24	
E		1.00			0.39	
e		0.35			0.14	
e1		0.65			0.26	
L	0.20	0.25	0.30	0.08	0.10	0.12
L1	0.20	0.25	0.30	0.08	0.10	0.12

■ The Recommended Mounting Pad Size

