

ESD7Z Series

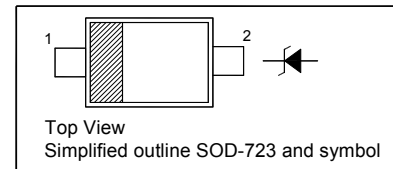
ESD Protection Diode

Features

- Excellent clamping capability
- Low leakage
- Fast response time

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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

Parameter	Symbol	Value	Unit
IEC61000-4-2 (ESD) Air Contact	-	± 30 ± 30	KV
ESD Voltage Per Human Body Model Per Machine Model	-	16 400	KV V
Power Dissipation	P_{tot}	100	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient ¹⁾	$R_{\theta\text{JA}}$	1250	$^\circ\text{C/W}$

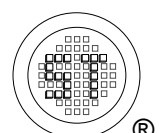
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

Characteristics at $T_a = 25^\circ\text{C}$ ($V_F = 0.9\text{ V Max. at } I_F = 10\text{ mA}$)

Type	Marking Code	Reverse Stand-off Voltage	Reverse Current	Breakdown Voltage			Clamping Voltage ¹⁾	Peak Pulse Current ¹⁾	Peak Power Dissipation	Capacitance ²⁾
		V_{RWM}	I_{R} at V_{RWM}	V_{BR}		at I_{T}	V_{C} at Max. I_{PP}	I_{PP}	P_{PK}	C_j
		Max. (V)	Max. (μA)	Min. (V)	Max. (V)	(mA)	Max. (V)	Max. (A)	Max. (W)	Typ. (pF)
ESD7Z3V3	3-	3.3	2.5	5	5.9	1	11.9	10.4	113	80
ESD7Z5V0	5-	5	1	6.2	7.3	1	13.3	8.8	117	75
ESD7Z7V0	7-	7	1	7.5	8.7	1	14.1	8.1	114	55
ESD7Z12	1-	12	1	13.5	15.6	1	23.7	5.4	128	30

¹⁾ $t_p = 8/20\ \mu\text{s}$

²⁾ at $V_{\text{R}} = 0\text{ V}$, $f = 1\text{ MHz}$



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Electrical Characteristic Curves

Fig 1. Pulse Waveform

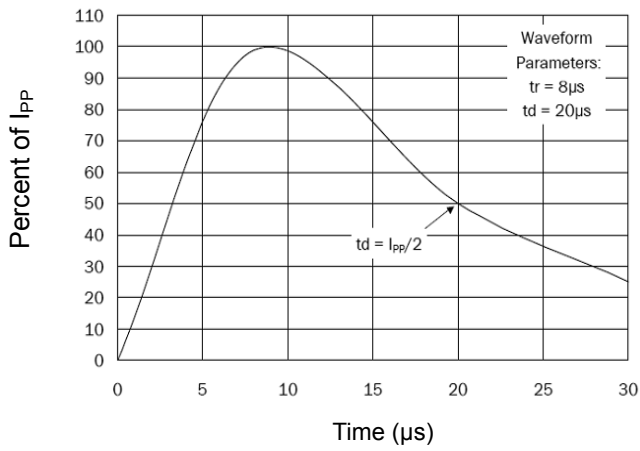


Fig 2. Power Derating Curve

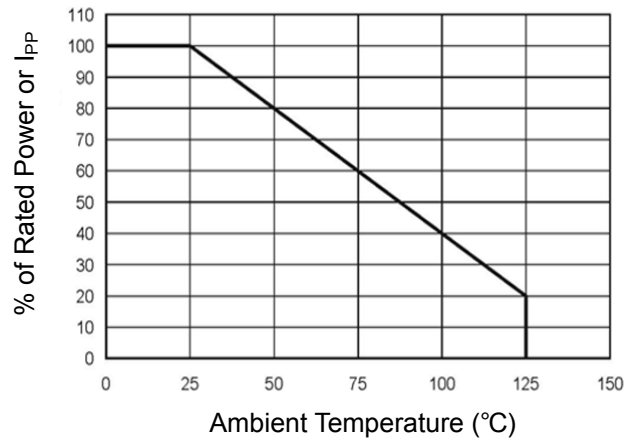


Fig 3. Clamping Voltage Curve

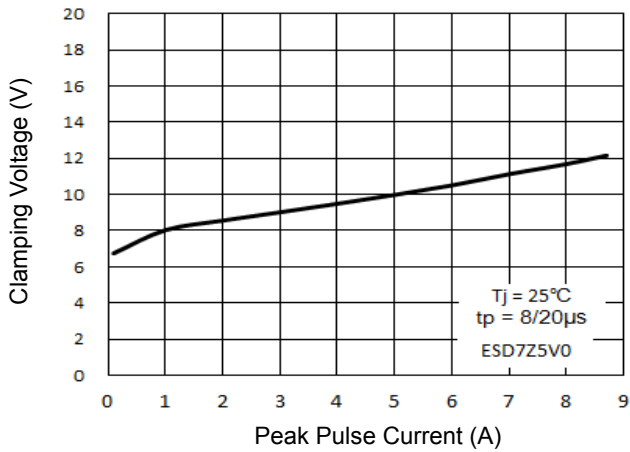


Fig 4. Junction Capacitance

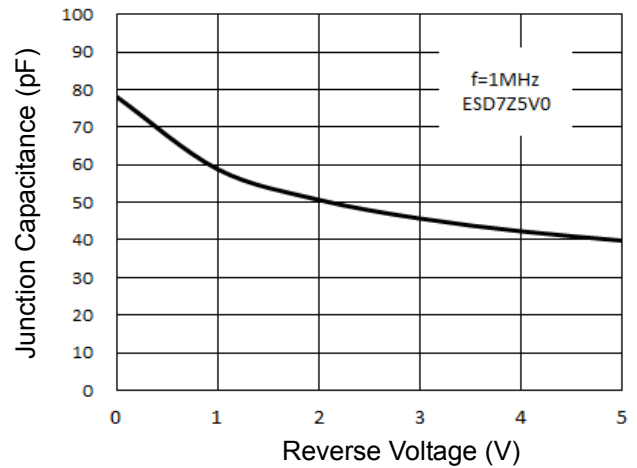
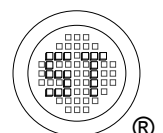
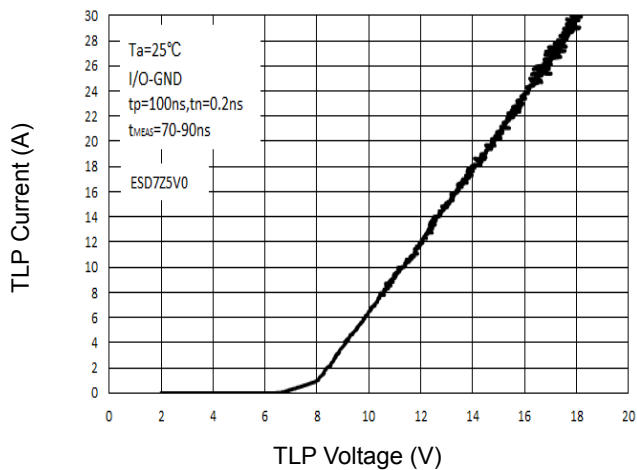


Fig 5 TLP Curve

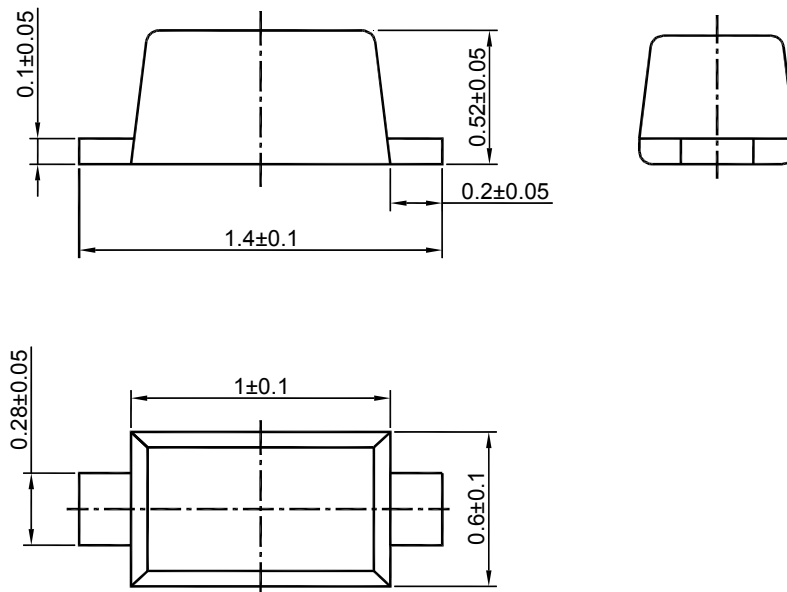


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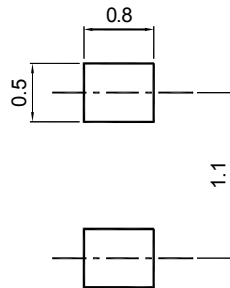
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-723



Recommended Soldering Footprint



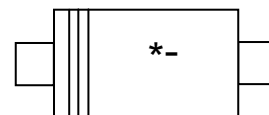
Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-723	8	2 ± 0.1	0.079 ± 0.004	178	7	5,000 10,000

Marking information

" * - " = Part No.

Type	Marking	Type	Marking
ESD7Z3V3	3-	ESD7Z5V0	5-
ESD7Z7V0	7-	ESD7Z12	1-



" III " = Cathode line

Font type: Arial

