ESD5Z03T1-ESD5Z36T1

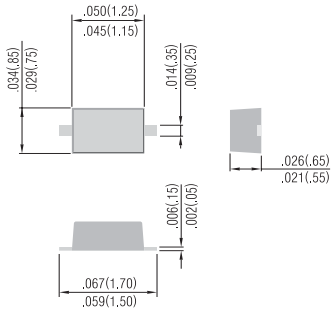
Single Line TVS Diode For ESD Protection Portable Electronics

Voltage:3~36 Volts
Power:120 Watts

Features

- 120 Watts peak pules power(tp=8/20μs)
- Small package for use in portable electronics
- Suitable replacement for MLV'S in ESD protection applications
- Low clamping voltage and leakage current
- Pb free product are available : 99% Sn above can meet RoHS environment substance directive request

SOD523



Dimensions in inches and (millimeters)

Applications

- Case: SOD-523 plastic
- Terminals : Solderable per MIL-STD-750,Method 2026
- Approx Weight: 0.0014 grams
- Marking : ESD5Z03T1 : KD
  ESD5Z05T1 : KE
  ESD5Z08T1 : KR
  ESD5Z12T1 : LE
  ESD5Z15T1 : LM
  ESD5Z24T1 : LZ
  ESD5Z36T1: MP

MAXIMUM RATINGS AND ELECTRICAL CHATACTERISTICS

ABSOLUTE MAXIMUM RATING

Rating	Symbol	Value	Units
Peak Pulse Power (tp=8/20 μs)	P_{PK}	120	W
ESD Voltage	V_{ESD}	25	KV
Operating Temperature	T_J	-50°C to 150 °C	°C
Storage Temperature	T_{STG}	-50°C to 150 °C	°C

ELECTRICAL CHARA CTERISTICS

ESD5Z03T1						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	3.3	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	4	-	-	V
Reverse Leakage Current	I_R	V_R=3.3V	-	-	125	μA
Clamping Voltage(8/20 μs)	V_C	I_{PP}=1A	-	-	7	V
Off State Junction Capacitance	C_J	0Vdc Bias=f=1MHz	-	180	-	pF
Off State Junction Capacitance	C_J	3Vdc Bias=f=1MHz	-	100	-	pF

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ESD5Z 05T1						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	6	-	-	V
Reverse Leakage Current	I_R	V_R=5V	-	-	10	μA
Clamping Voltage(8/20 μs)	V_C	I_{PP}=1A	-	-	9	V
Off State Junction Capacitance	C_J	0Vdc Bias=f=1MHz	-	110	-	pF
Off State Junction Capacitance	C_J	5Vdc Bias=f=1MHz	-	65	-	pF

ESD5Z08T1						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	8	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	8.5	-	-	V
Reverse Leakage Current	I_R	V_R=8V	-	-	10	μA
Clamping Voltage(8/20 μs)	V_C	I_{PP}=1A	-	-	13.4	V
Off State Junction Capacitance	C_J	0Vdc Bias=f=1MHz	-	70	-	pF
Off State Junction Capacitance	C_J	8Vdc Bias=f=1MHz	-	40	-	pF

ESD5Z12T1						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	12	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	13.3	-	-	V
Reverse Leakage Current	I_R	V_R=12V	-	-	0.01	μA
Clamping Voltage(8/20 μs)	V_C	I_{PP}=1A	-	-	19	V
Off State Junction Capacitance	C_J	0Vdc Bias=f=1MHz	-	45	-	pF
Off State Junction Capacitance	C_J	12Vdc Bias=f=1MHz	-	30	-	pF

ESD5Z15T1						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	15	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	16.7	-	-	V
Reverse Leakage Current	I_R	V_R=15V	-	-	0.01	μA
Clamping Voltage(8/20 μs)	V_C	I_{PP}=1A	-	-	23	V
Off State Junction Capacitance	C_J	0Vdc Bias=f=1MHz	-	35	-	pF
Off State Junction Capacitance	C_J	15Vdc Bias=f=1MHz	-	20	-	pF

ESD5Z03T1-ESD5Z36T1

Single Line TVS Diode For ESD Protection Portable Electronics

ESD5Z 24T1						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	24	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	26.7	-	-	V
Reverse Leakage Current	I_R	V_R=24V	-	-	0.01	μA
Clamping Voltage(8/20 μs)	V_C	I_{PP}=1A	-	-	36	V
Off State Junction Capacitance	C_J	0Vdc Bias=f=1MHz	-	23	-	pF
Off State Junction Capacitance	C_J	24Vdc Bias=f=1MHz	-	14	-	pF

ESD5Z 36T1						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	36	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	40	-	-	V
Reverse Leakage Current	I_R	V_R=36V	-	-	0.01	μA
Clamping Voltage(8/20 μs)	V_C	I_{PP}=1A	-	-	60	V
Off State Junction Capacitance	C_J	0Vdc Bias=f=1MHz	-	17	-	pF
Off State Junction Capacitance	C_J	36Vdc Bias=f=1MHz	-	12	-	pF

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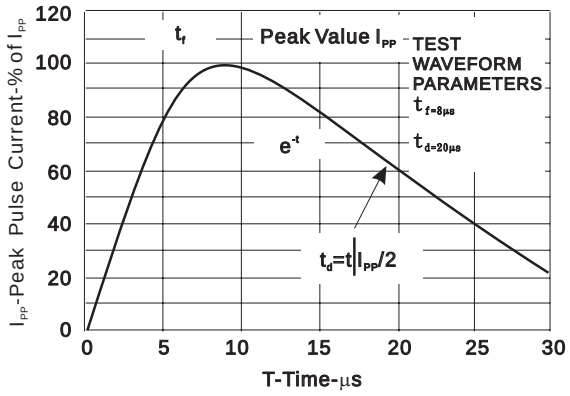

FIG. 1- Pulse Wave Form

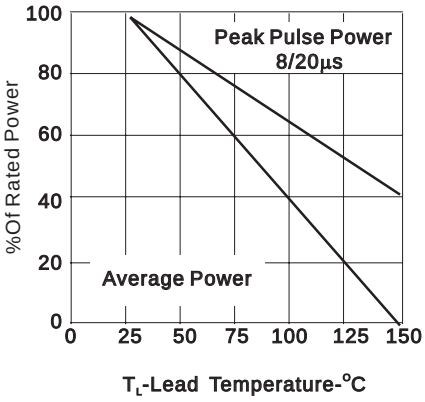

FIG. 2-Power Derating Curve

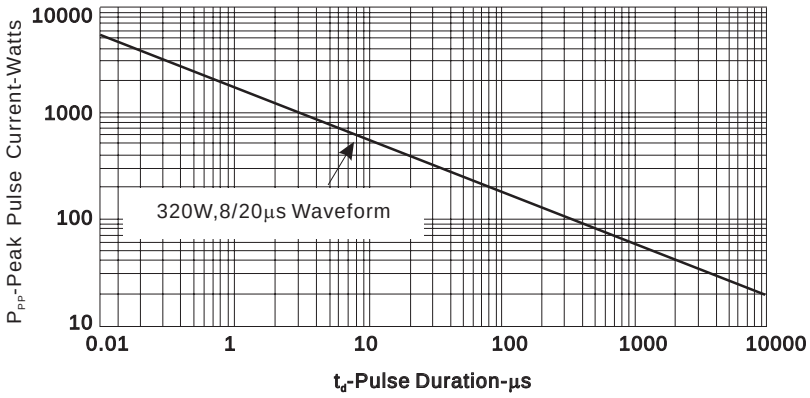

FIG. 3-Peak Pulse Power vs Pulse Time

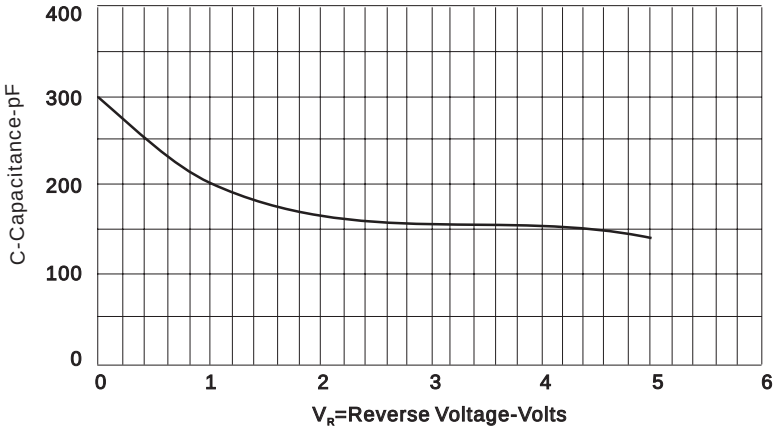

FIG. 4-Typical Reverse Voltage vs Capacitance