

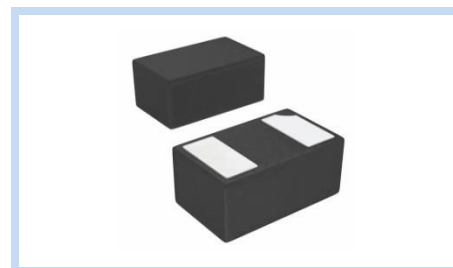
ESD Suppressor 5V Bidirectional DFN0603

ME51B12D01

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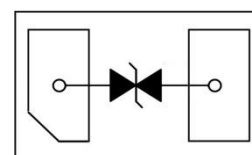
FEATURE

- IEC 61000-4-2 ESD: $\pm 30\text{KV}$ (Air) $\pm 25\text{KV}$ (Contact)
- ESD Protection for one Bidirectional Channel
- Ultra Small SMD Package
- Low Clamping Voltage



APPLICATION

- Cell Phone Handsets and Accessories
- High Speed Data Lines
- Computers and Peripherals
- Portable Electronics
- Audio and Video Equipment



MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	V_{ESD}	± 25	KV
ESD Voltage (Air discharge)		± 30	
Peak Pulse Current (tp=8/20 μ s)	I_{PP}	3.5	A
Peak Pulse Power (tp=8/20 μ s)	P_{PP}	50	W
Operating Temperature Range	T_J	-55~+125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	--	V_{RWM}	--	--	5	V
Reverse Breakdown Voltage	$I_{BR}=1\text{mA}$	V_{BR}	5.6	--	9	V
Reverse Leakage Current	$V_R=5\text{V}$	I_R	--	--	10	nA
Dynamic Resistance	tp=100ns	R_D	--	0.23	--	Ω
Clamping Voltage	$I_{PP}=1\text{A}$, tp=8/20 μ s	V_C	--	--	12	V
	$I_{PP}=3.0\text{A}$, tp=8/20 μ s		--	--	17	
Clamping Voltage TLP	$I_{PP}=-5\text{A}$, TLP=0.2/100ns	V_C	--	-15	--	V
	$I_{PP}=5\text{A}$, TLP=0.2/100ns		--	15	--	
	$I_{PP}=-30\text{A}$, TLP=0.2/100ns		--	-20	--	
	$I_{PP}=30\text{A}$, TLP=0.2/100ns		--	20	--	

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ELECTRICAL CHARACTERISTICS

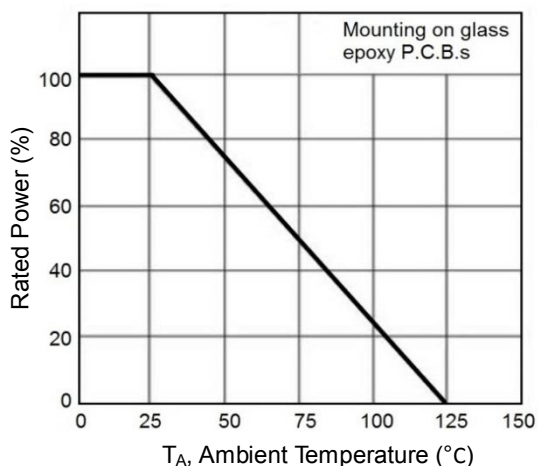
Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Off State Junction Capacitance	Vdc=0, f=1MHz, Between I/O pin and GND	C _J	--	3	10	pF

Notes:

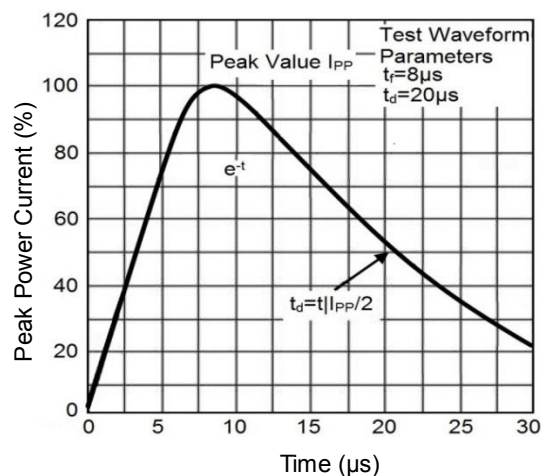
- T_J= 25°C unless otherwise specified
- TLP Settings: tp=100ns, tr=0.2ns, I_{TLP} and V_{TLP} averaging window: t1=70ns to t2=90ns.
- Dynamic resistance calculated from I_{TLP}=-5A to I_{TLP}=-30A and I_{TLP}=+5A to I_{TLP}=+30A

CHARACTERISTIC CURVES

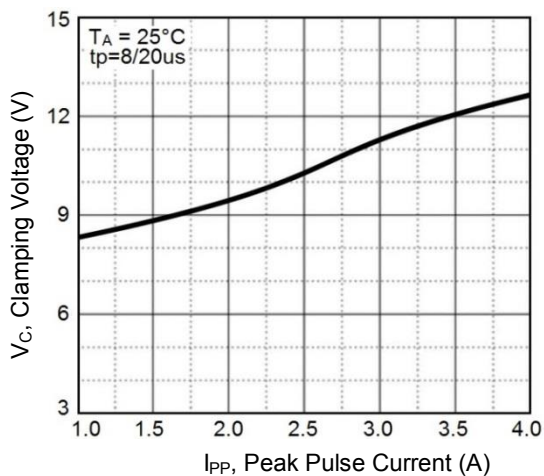
Derating Curve



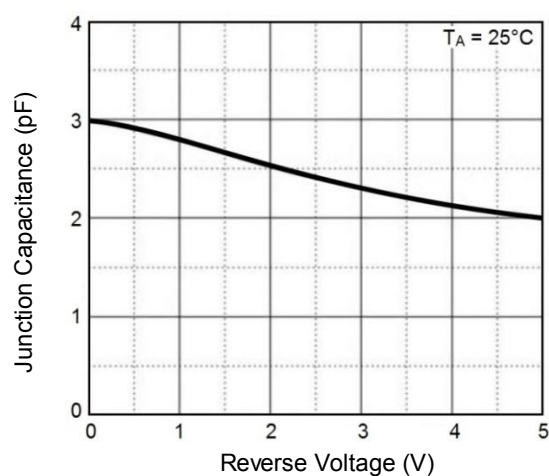
Pulse Waveforms



Clamping Voltage vs. Peak Pulse Current



Capacitance vs. Reverse Voltage

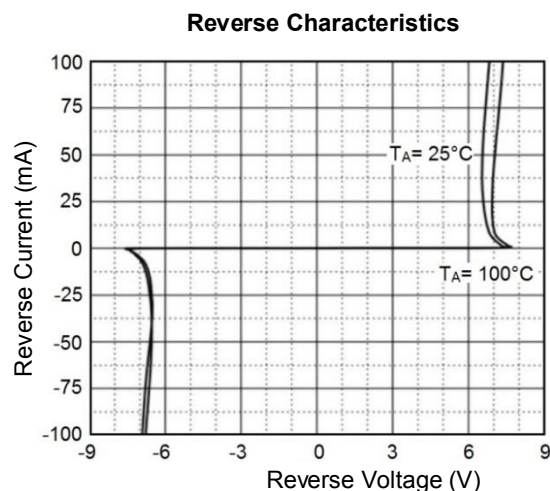
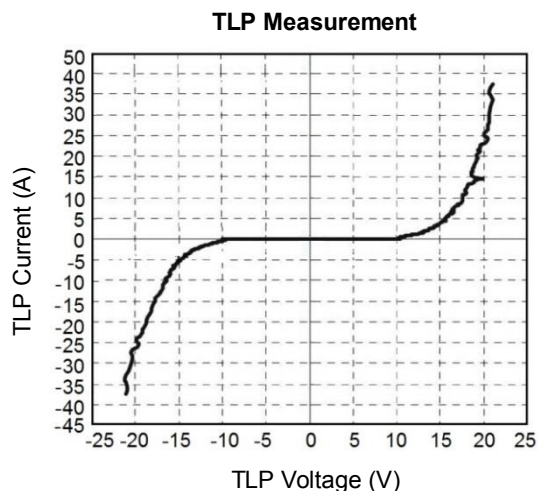


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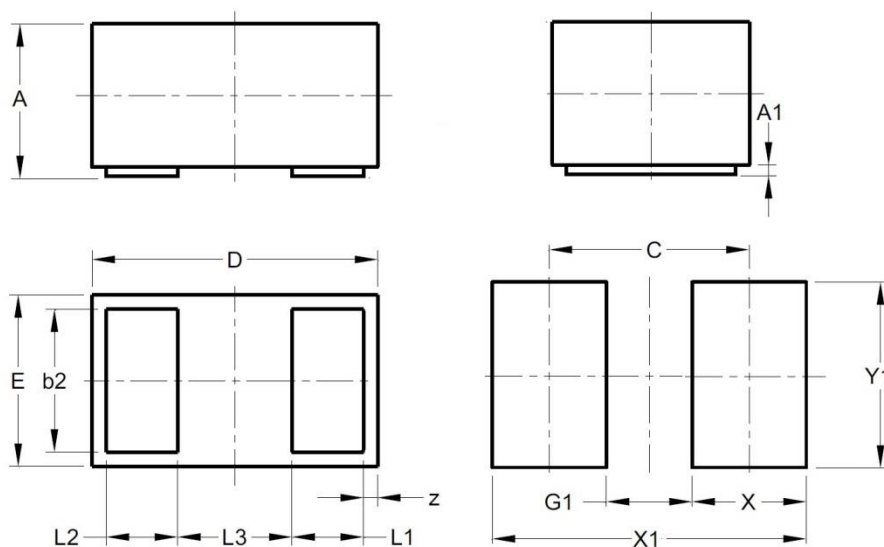
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CHARACTERISTIC CURVES



DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.27	0.34
A1	-	-
b2	0.22	0.29
D	0.57	0.67
E	0.27	0.37
z	-	-
L1	0.12	0.19
L2	0.12	0.19
L3	-	-
C	0.40	0.40
G1	0.16	0.16
X	0.24	0.24
X1	0.64	0.64
Y1	0.34	0.34



*Specifications subject to change without notice.