

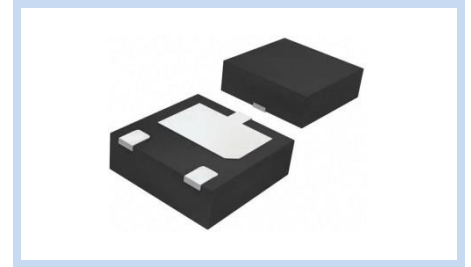
ESD Suppressor 5V Unidirectional DFN2020

ME51U30D2020

MERITEK

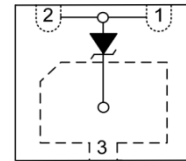
FEATURE

- IEC 61000-4-2 ESD: $\pm 30\text{KV}$ (Air) $\pm 30\text{KV}$ (Contact)
- ESD Protection for one Unidirectional Channel
- High Surge Capability
- Low Leakage Current
- Low Clamping Voltage
- Solid-State Silicon-Avalanche Technology



APPLICATION

- Power Port Protection
- I²C Bus Protection
- Computer Interfaces Protection
- Microprocessors Protection
- Peripherals



MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	V_{ESD}	± 30	KV
ESD Voltage (Air discharge)		± 30	
Peak Pulse Power ($t_p=10/1000\mu\text{s}$)	P_{PP}	400	W
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	4000	W
Operating & Storage Temperature Range	T_J, T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

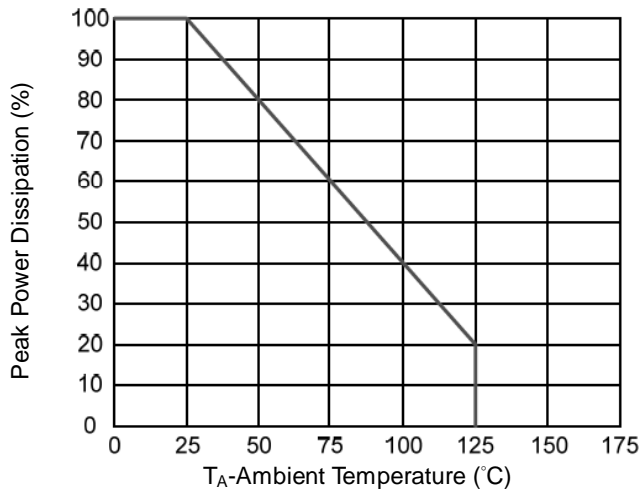
Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	--	V_{RWM}	--	--	5	V
Reverse Breakdown Voltage	$I_{BR}=1\text{mA}$	V_{BR}	6	--	--	V
Reverse Leakage Current	$V_R=5\text{V}$	I_R	--	--	1	μA
Clamping Voltage	$I_{PP}=185\text{A}, t_p=8/20\mu\text{s}$	V_C	--	30	--	V
Off State Junction Capacitance	$V_{dc}=0, f=1\text{MHz}$ Between I/O pins and GND	C_J	--	730	1000	pF

Notes:

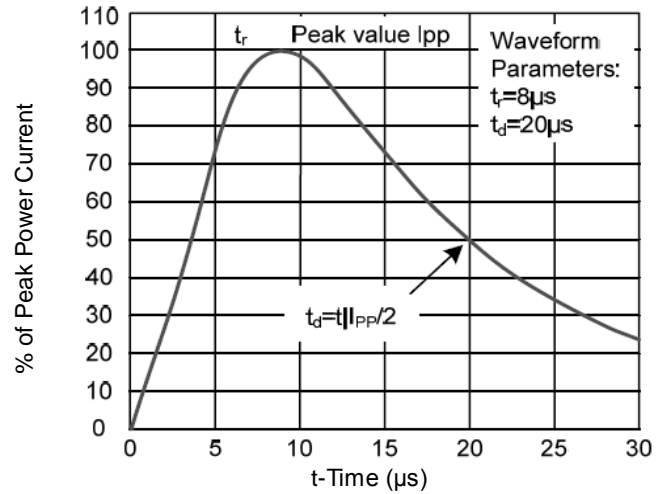
1. $T_J=25^{\circ}\text{C}$ unless otherwise specified

CHARACTERISTIC CURVES

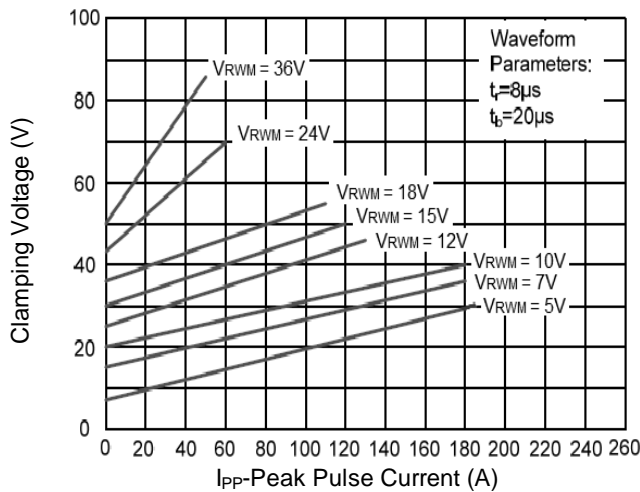
Power Derating Curve



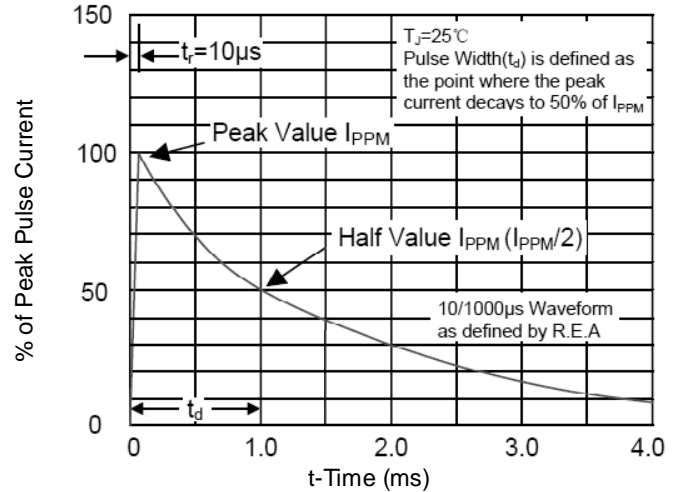
8/20µs Pulse Waveforms



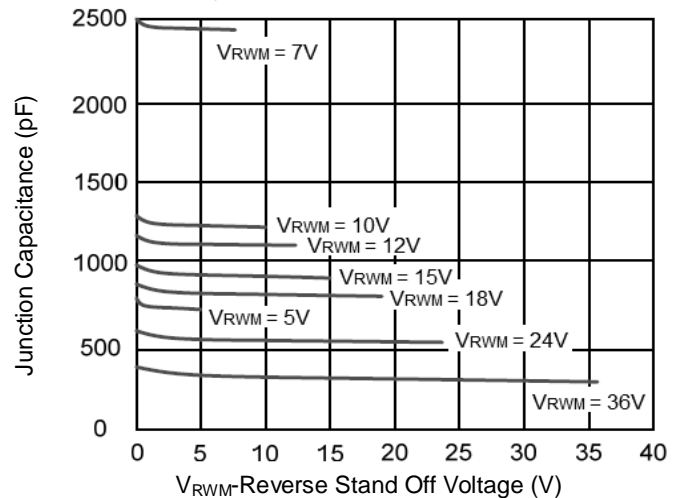
Clamping Voltage vs. Peak Pulse Current



10/1000µs Pulse Waveform



Typical Junction Capacitance



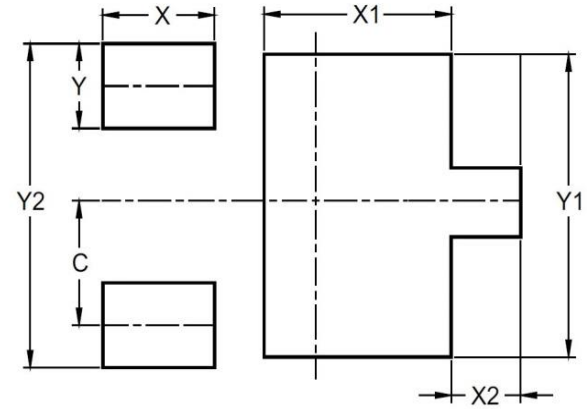
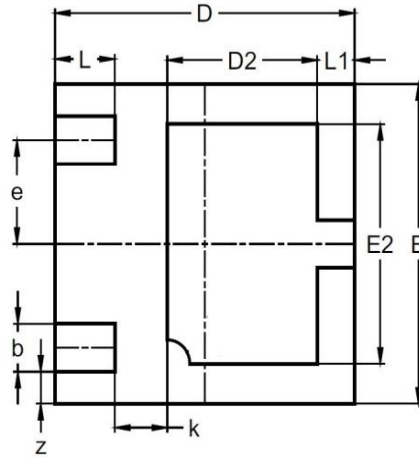
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DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.50	0.60
b	0.30	0.30
D	1.90	2.10
D2	0.90	1.15
E	1.90	2.10
E2	1.40	1.60
e	0.65	0.65
k	0.20	0.45
L	0.32	0.47
L1	0.20	0.30
z	0.50	0.50
C	0.60	0.60
X	0.50	0.50
X1	1.10	1.10
X2	0.25	0.25
Y	0.40	0.40
Y1	1.60	1.60
Y2	1.60	1.60



*Specifications subject to change without notice.