

Features

- * 2500W peak pulse power (8/20 μ s)
- * Protects one data or power line
- * Operating voltage: 4.5V
- * Ultra low clamping voltage
- * Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ± 30 kV
 - Contact discharge: ± 30 kV
 - IEC61000-4-5 (SURGE) 160A (8/20 μ s)

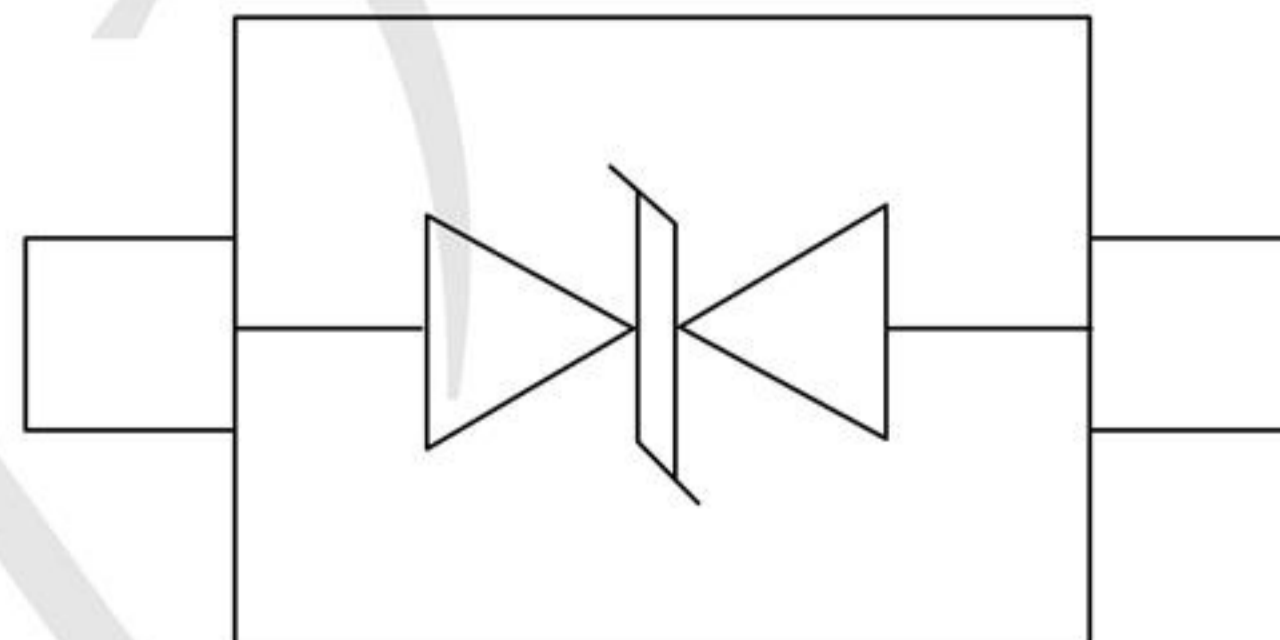
Mechanical Characteristics

- * Package: SOD-323
- * Ultra low leakage: nA level
- * Case Material: "Green" Molding Compound.
- * UL Flammability Classification Rating 94V-0
- * Moisture Sensitivity: Level 3 per J-STD-020

Applications

- * Mobile Phones and Accessories
- * Battery Protection
- * USB VBus
- * Power Line Protection
- * Hand Held Portable Applications

Dimensions and Pin Configuration



SOD-323

Marking: 48D Or S21x
x=date code



Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	2500	W
Peak Pulse Current (8/20μs)	IPP	160	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			4.5	V	
Breakdown Voltage	V _{BR}	4.7			V	I _T =1mA
Leakage Current	I _{Leak}			0.8	uA	V _{RWM} =4.5V
Clamping Voltage	V _C		11		V	I _{PP} =100A, T _p =8/20μs
Clamping Voltage	V			15	V	I =160A, T _p =8/20μs
Junction Capacitance	C _J		320		pF	V _R =0V, f=1MHz



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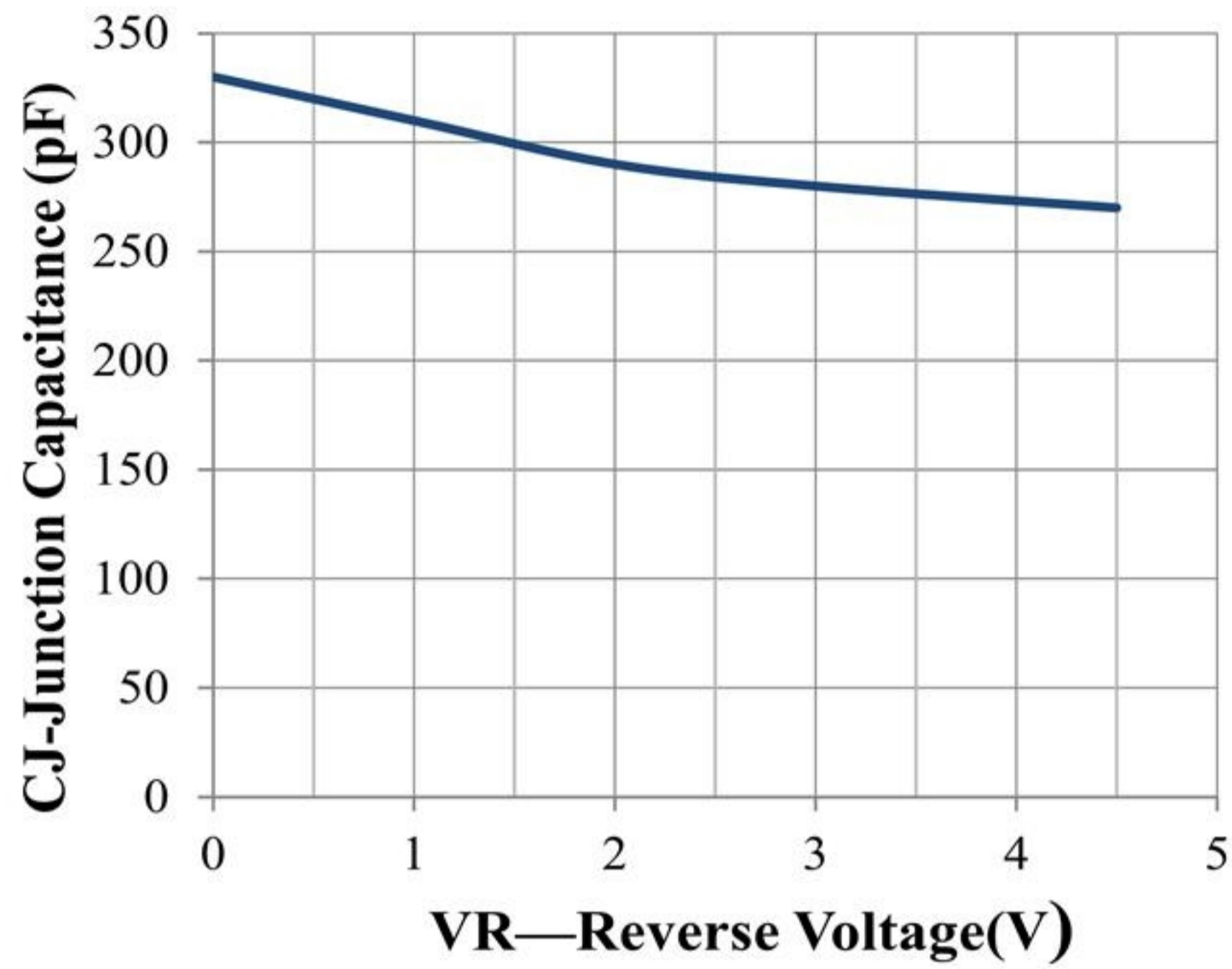
—台丹电子—

TPE4581MC

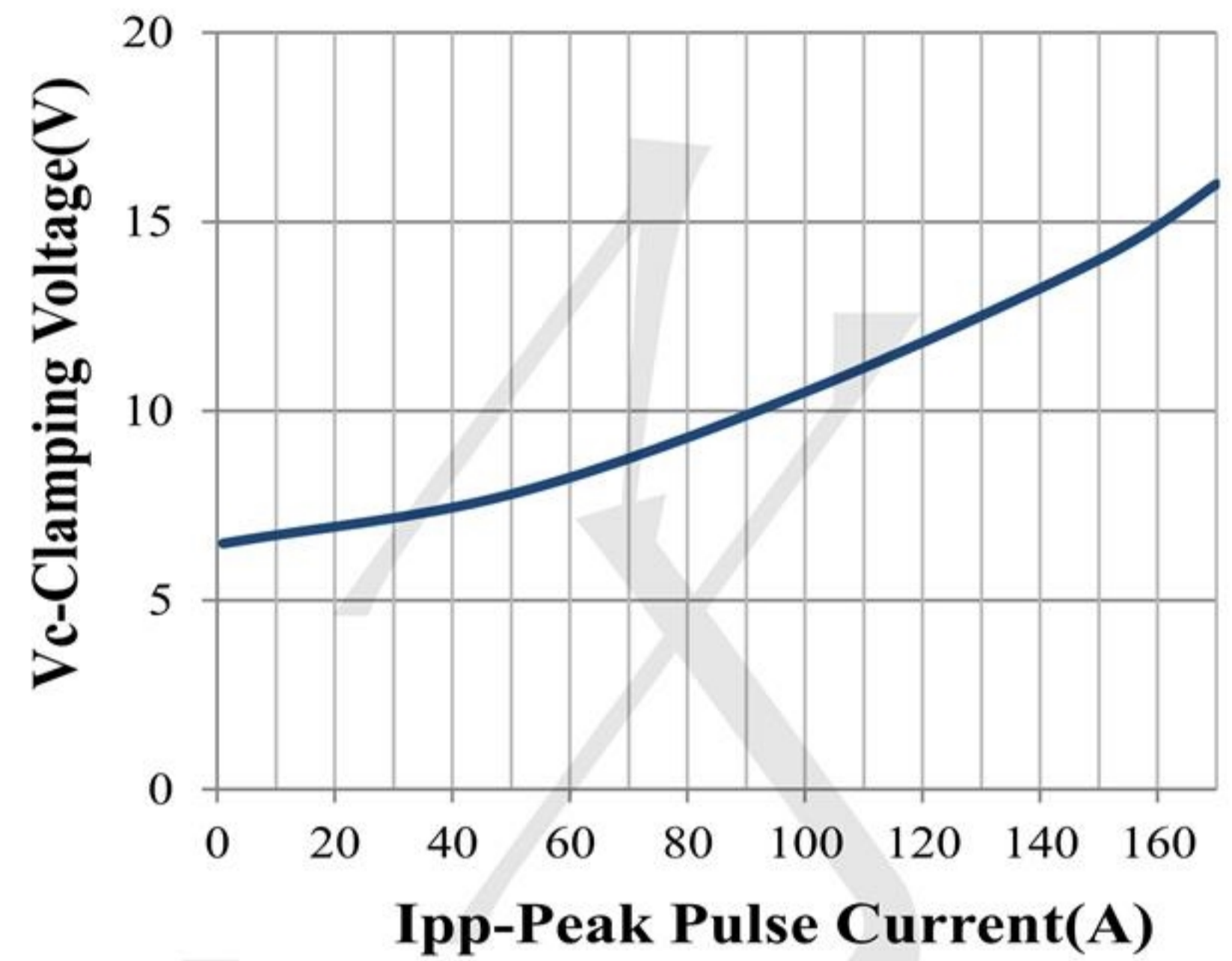
1-Line Bi-directional Diode

www.sot23.com.tw

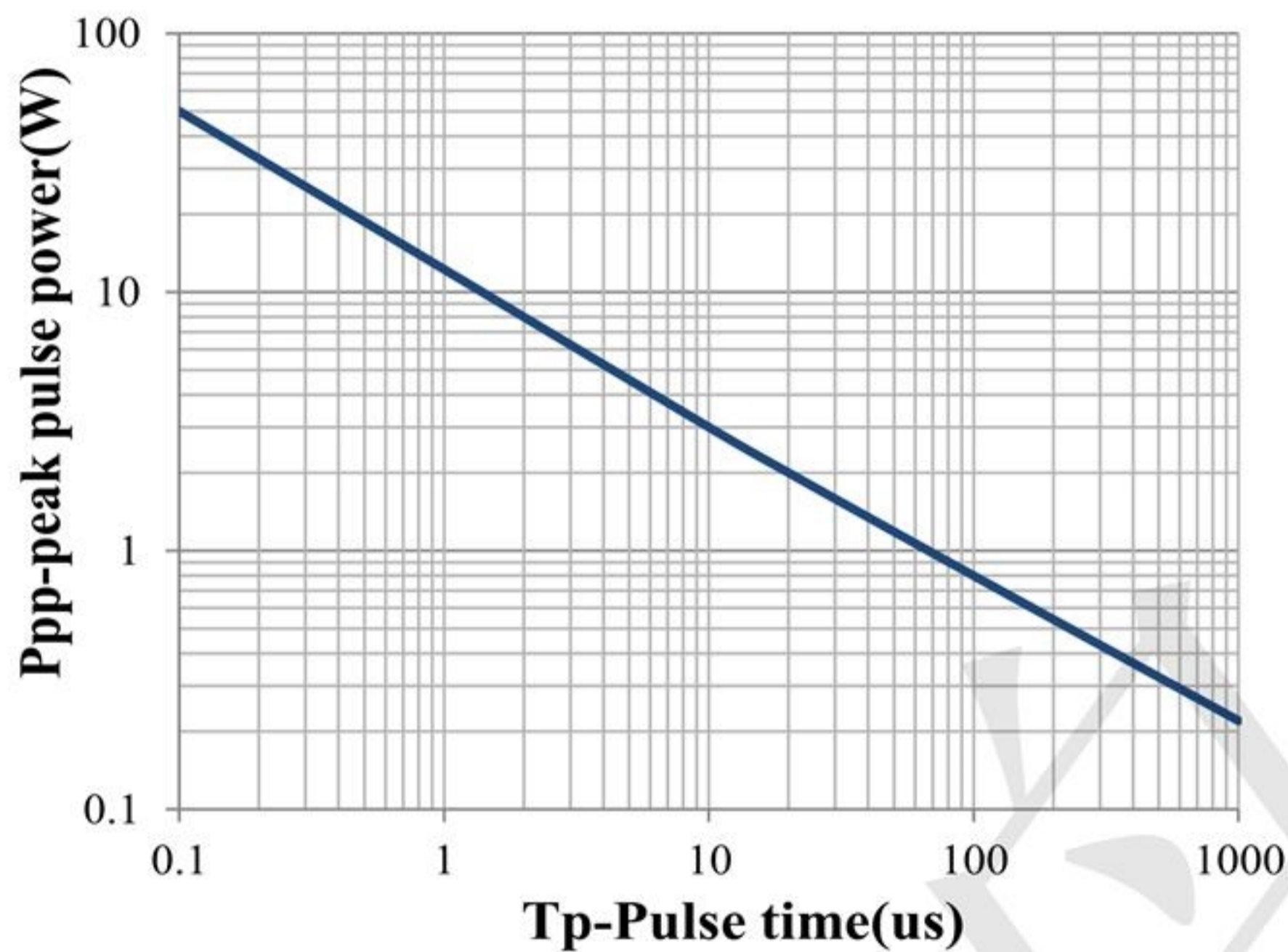
Characteristic Curves



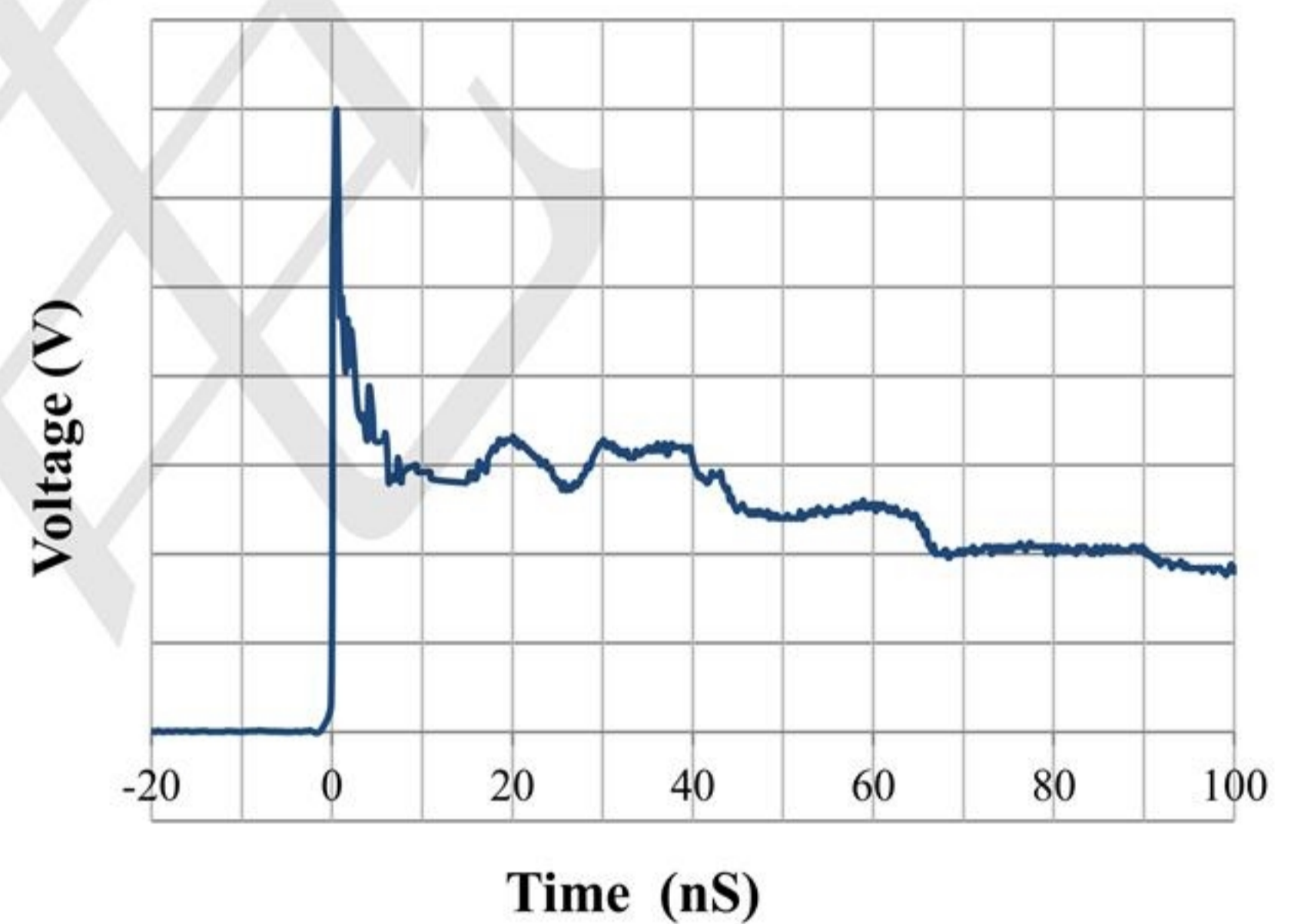
Junction Capacitance vs. Reverse Voltage



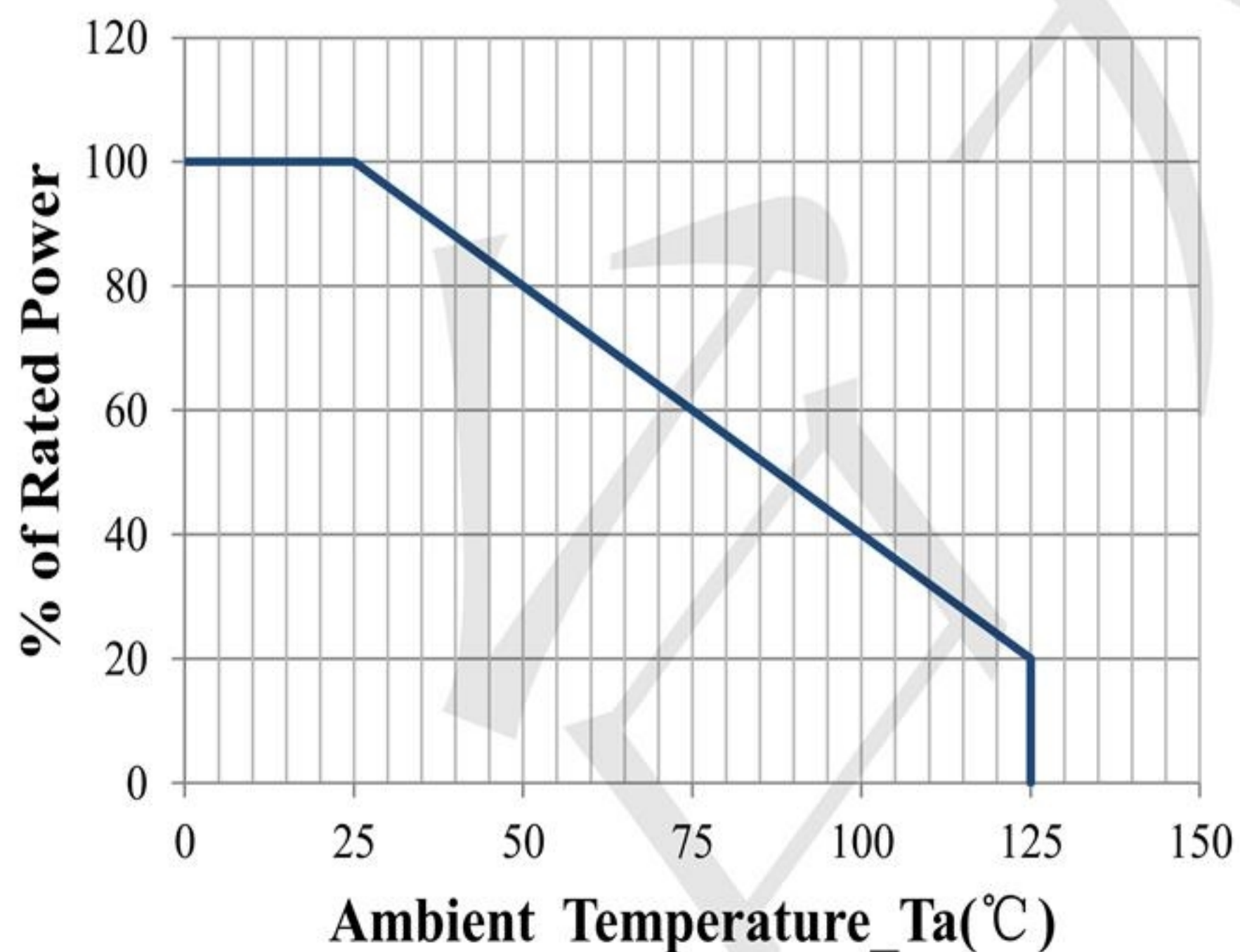
Clamping Voltage vs. Peak Pulse Current



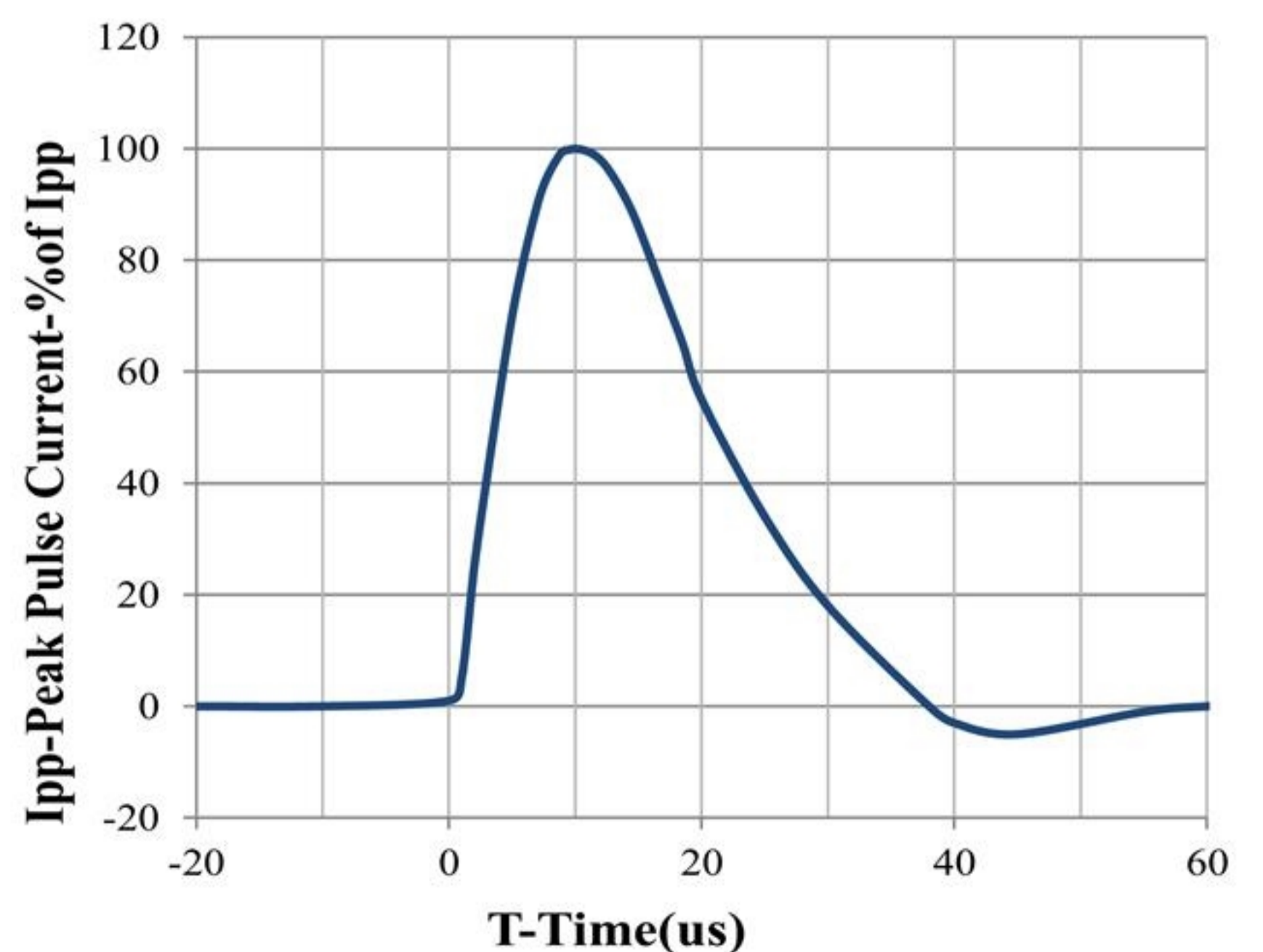
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



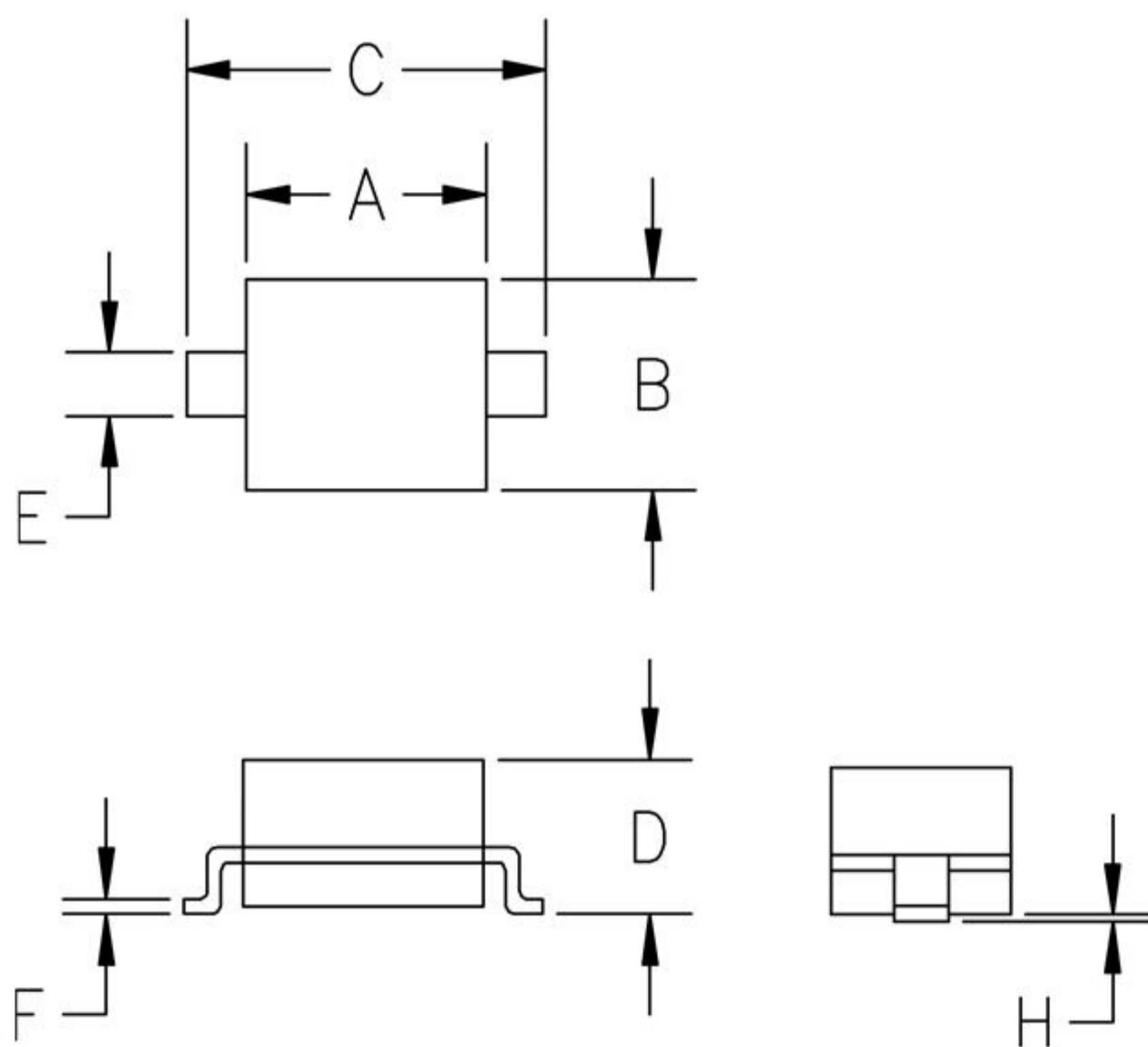
Power Derating Curve



8 X 20us Pulse Waveform

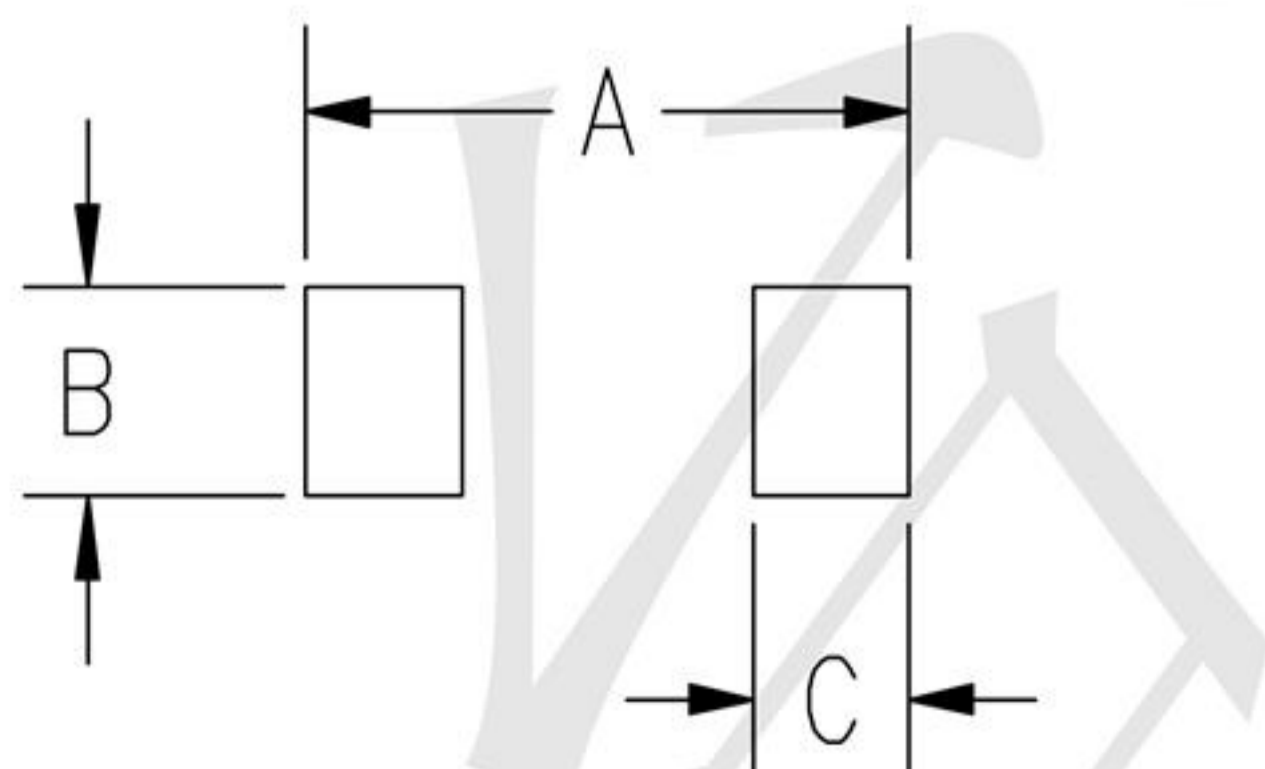


Outline Drawing - SOD323



SYM	DIMENSIONS			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.80	0.060	0.071
B	1.20	1.40	0.045	0.054
C	2.30	2.70	0.090	0.107
D	-	1.10	-	0.043
E	0.30	0.40	0.012	0.016
F	0.10	0.25	0.004	0.010
H	-	0.10	-	0.004

Land Pattern - SOD323



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031

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