

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	500	W
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	$^\circ\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^\circ\text{C}$

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

ASD33						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			3.3	V	
Breakdown Voltage	VBR	3.8			V	$I_T = 1\text{mA}$
Reverse Leakage Current	I_R			0.5	μA	VRWM = 3.3V
Forward Voltage	VF		0.8	1.2	V	$I_F = 10\text{mA}$
Clamping Voltage	VC			5	V	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)
Clamping Voltage	VC			12.5	V	$I_{PP} = 40\text{A}$ (8 x 20 μs pulse)
Peak Pulse Current	Ipp			40	A	$t_p = 8/20\mu\text{s}$
Junction Capacitance	CJ		280	400	pF	VR = 0V, f = 1MHz

ASD05						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	6			V	IT = 1mA
Reverse Leakage Current	IR			0.5	µA	VRWM = 5V
Forward Voltage	VF		0.8	1.2	V	IF = 10mA
Clamping Voltage	VC			9.5	V	I _{PP} = 5A (8 x 20µs pulse)
Clamping Voltage	VC			14	V	I _{PP} = 36A (8 x 20µs pulse)
Peak Pulse Current	I _{pp}			36	A	tp = 8/20µs
Junction Capacitance	CJ		230	300	pF	VR = 0V, f = 1MHz

ASD08						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			8	V	
Breakdown Voltage	VBR	8.5			V	IT = 1mA
Reverse Leakage Current	IR			0.2	µA	VRWM = 8V
Forward Voltage	VF		0.8	1.2	V	IF = 10mA
Clamping Voltage	VC			12	V	I _{PP} = 5A (8 x 20µs pulse)
Clamping Voltage	VC			18	V	I _{PP} = 28A (8 x 20µs pulse)
Peak Pulse Current	I _{pp}			28	A	tp = 8/20µs
Junction Capacitance	CJ		200	250	pF	VR = 0V, f = 1MHz

ASD12						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			12	V	
Breakdown Voltage	VBR	13.3			V	IT = 1mA
Reverse Leakage Current	IR			0.2	μA	VRWM = 12V
Forward Voltage	VF		0.8	1.2	V	IF = 10mA
Clamping Voltage	VC			19	V	I _{PP} = 5A (8 x 20μs pulse)
Clamping Voltage	VC			25	V	I _{PP} = 20A (8 x 20μs pulse)
Peak Pulse Current	I _{pp}			20	A	t _p = 8/20μs
Junction Capacitance	C _J		100	150	pF	VR = 0V, f = 1MHz

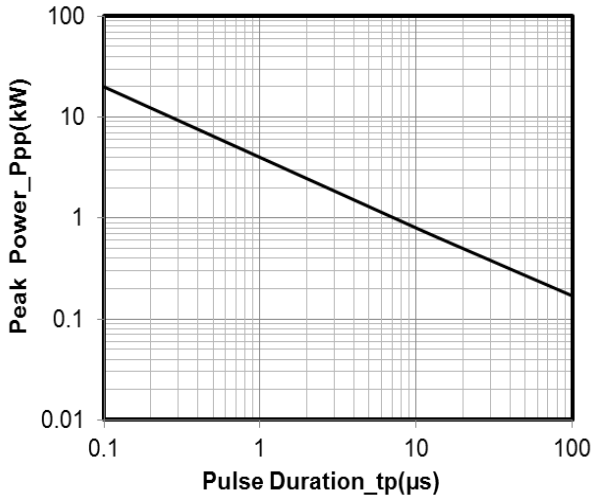
ASD15						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			15	V	
Breakdown Voltage	VBR	16.8			V	IT = 1mA
Reverse Leakage Current	IR			0.2	μA	VRWM = 15V
Forward Voltage	VF		0.8	1.2	V	IF = 10mA
Clamping Voltage	VC			23	V	I _{PP} = 5A (8 x 20μs pulse)
Clamping Voltage	VC			33	V	I _{PP} = 15A (8 x 20μs pulse)
Peak Pulse Current	I _{pp}			17	A	t _p = 8/20μs
Junction Capacitance	C _J		75	120	pF	VR = 0V, f = 1MHz

ASD24						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			24	V	
Breakdown Voltage	VBR	27			V	IT = 1mA
Reverse Leakage Current	IR			0.2	μA	VRWM = 24V
Forward Voltage	VF		0.8	1.2	V	IF = 10mA
Clamping Voltage	VC			40	V	I _{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	VC			50	V	I _{PP} = 10A (8 x 20μs pulse)
Peak Pulse Current	I _{pp}			10	A	tp = 8/20μs
Junction Capacitance	CJ		54	100	pF	VR = 0V, f = 1MHz

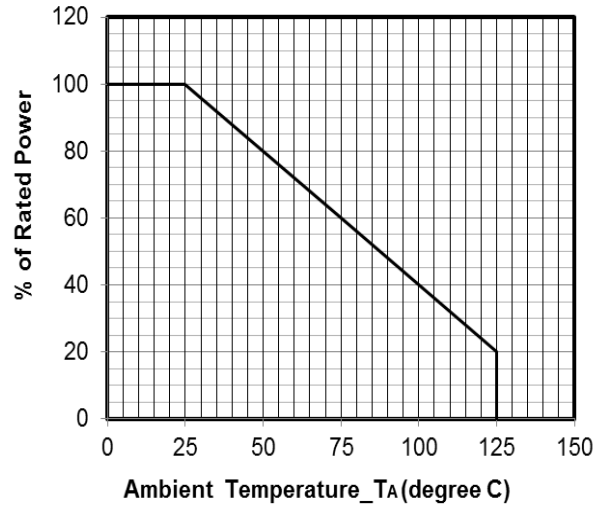
ASD36						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			36	V	
Breakdown Voltage	VBR	38			V	IT = 1mA
Reverse Leakage Current	IR			0.2	μA	VRWM = 36V
Forward Voltage	VF		0.8	1.2	V	IF = 10mA
Clamping Voltage	VC			45	V	I _{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	VC			62.5	V	I _{PP} = 8A (8 x 20μs pulse)
Peak Pulse Current	I _{pp}			8	A	tp = 8/20μs
Junction Capacitance	CJ		50	70	pF	VR = 0V, f = 1MHz

ASD40						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			40	V	
Breakdown Voltage	V _{BR}	44			V	I _T = 1mA
Reverse Leakage Current	I _R			0.2	μA	V _{RWM} = 40V
Forward Voltage	V _F		0.8	1.2	V	I _F = 10mA
Clamping Voltage	V _C			50	V	I _{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V _C			83	V	I _{PP} = 6A (8 x 20μs pulse)
Peak Pulse Current	I _{pp}			6	A	t _p = 8/20μs
Junction Capacitance	C _J		36		pF	V _R = 0V, f = 1MHz

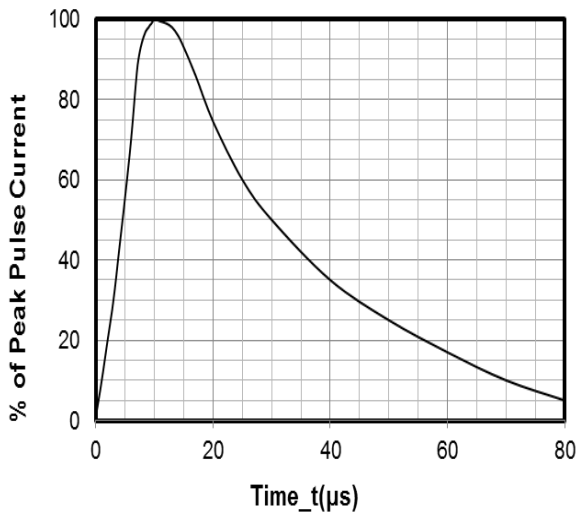
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



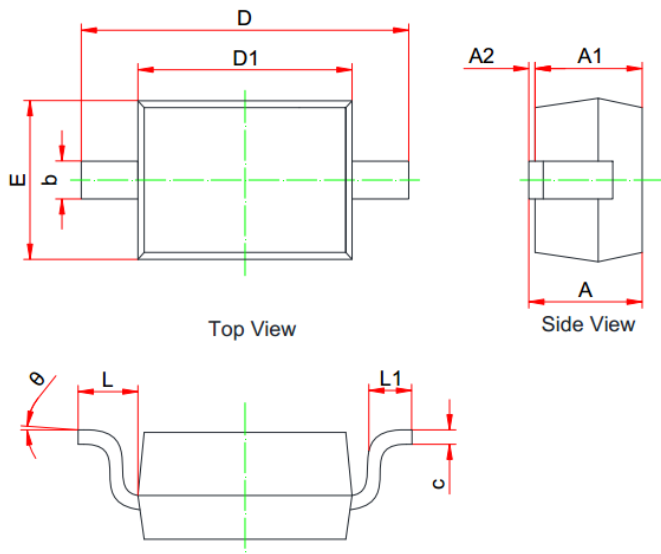
Peak Pulse Power vs. Pulse Time



Power Derating Curve



8 X 20μs Pulse Waveform

SOD-323 Package Outline Drawing


	MILLIMETERS		
	MIN	NOM	MAX
A	0.800	--	1.100
A1	0.800	--	0.900
A2	0.000	--	0.100
b	0.250	--	0.400
c	0.080	--	0.177
D1	1.600	1.700	1.800
D	2.300	--	2.800
E	1.150	--	1.400
L	0.475REF		
L1	0.100	--	0.500
Θ	0°	--	8°

Suggested Land Pattern

Unit: mm
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