

Features

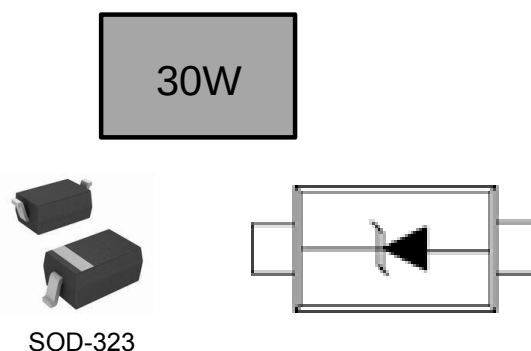
Ultra-low leakage (nA level)
Low clamping voltage
RoHS, REACH & SVHC, Halogen Compliant
SOD-323 package; $\pm 30\text{kV}$ ESD protection (IEC 61000-4-2)
-40°C to +125°C operating temp range

Applications

Portable devices (smartphones, wearables)
Consumer electronics (cameras, MP3)
Communication modules (Bluetooth, Wi-Fi)

Mechanical Data

Package: SOD-323
Lead Finish: Lead Free
UL Flammability Classification Rating 94V-0



Absolute Maximum Rating

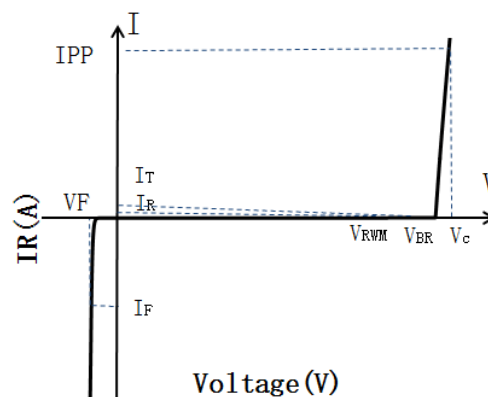
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs pulse)	P _{pk}	300	W
Peak Pulse Current (8/20 μs pulse)	I _{pp}	5	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T _J	-40 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Electrical Characteristics

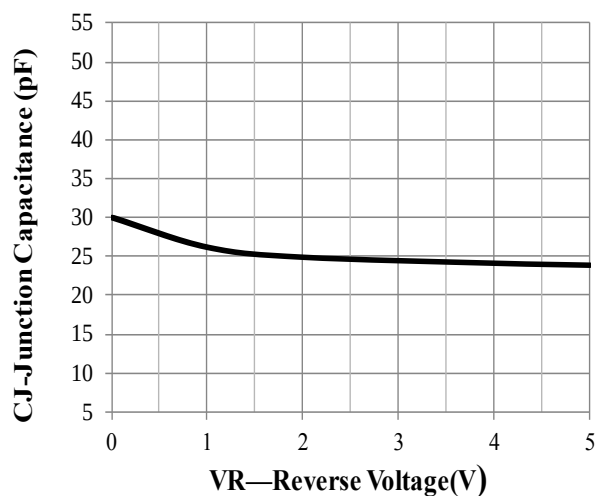
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				30	V
Breakdown voltage	V_{BR}	$I_T = 1\text{mA}$	32	33.5	38	V
Reverse leakage current	I_R	$V_{RWM} = 30.0\text{V}$		<10	100	nA
Clamping voltage	V_C	$I_{PP} = 1\text{A}$ (8/20 μs)		35	38	V
Clamping voltage	V_C	$I_{PP} = 5\text{A}$ (8/20 μs)		45	60	V
Junction capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		30	45	pF

Electrical Parameters (TA = 25°C unless otherwise noted)

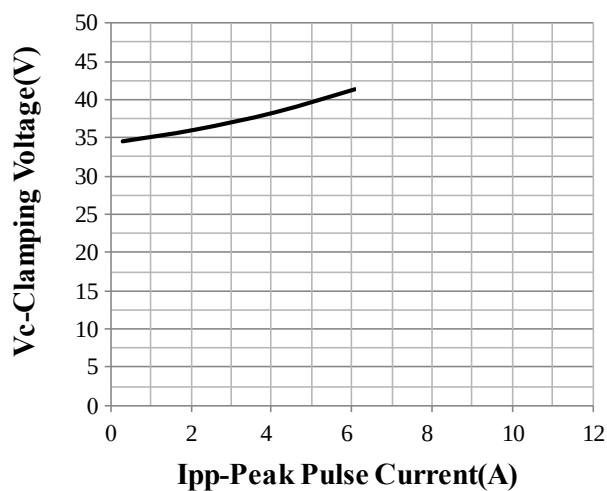
Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}



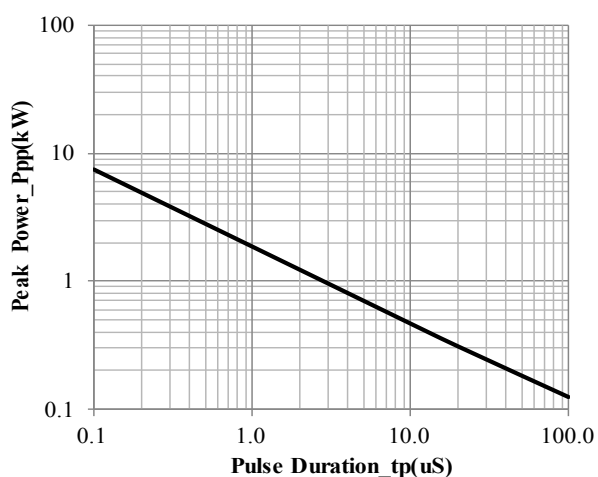
RATING AND CHARACTERISTIC CURVES



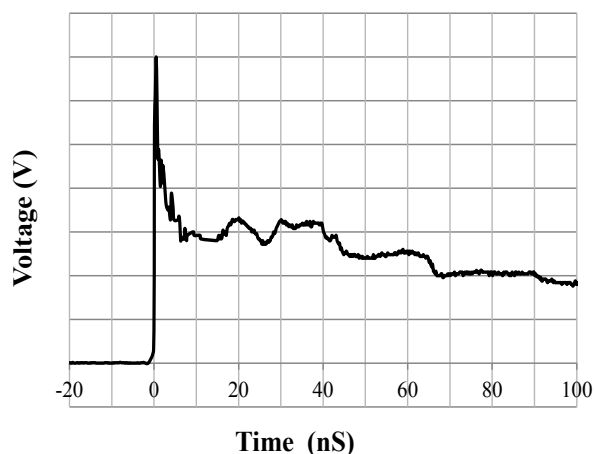
Junction Capacitance vs. Reverse Voltage



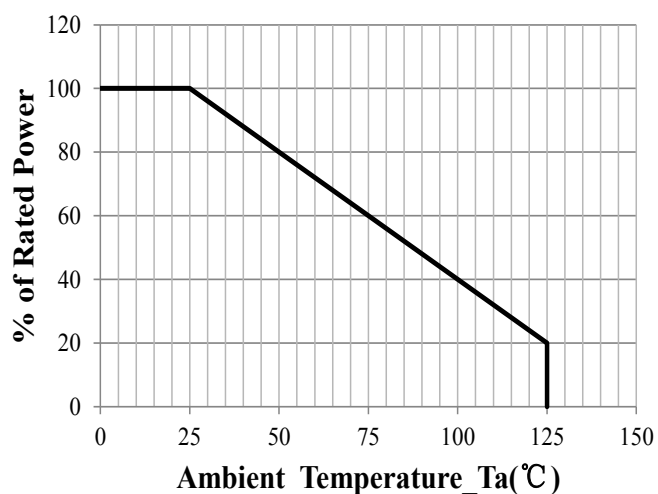
Clamping Voltage vs. Peak Pulse Current



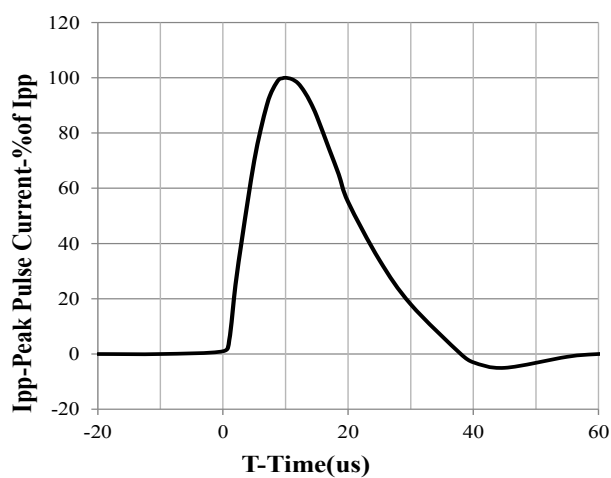
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



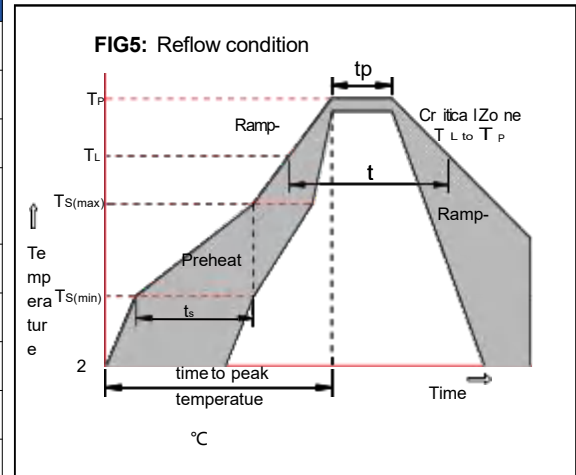
Power Derating Curve



8 X 20us Pulse Waveform

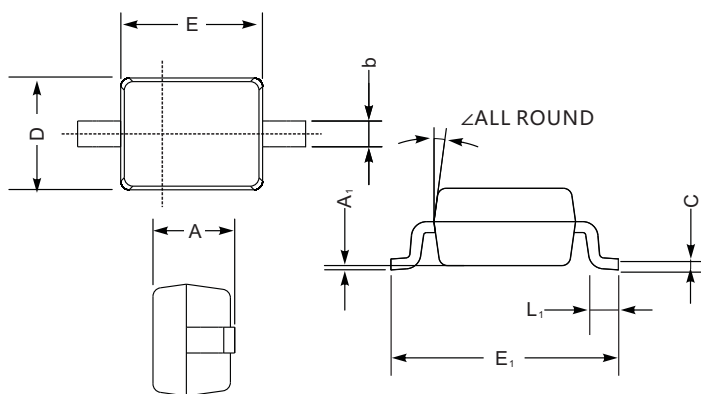
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C



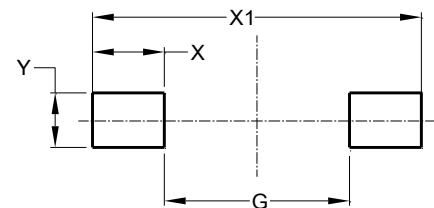
Package Dimensions & Suggested Pad Layout

SOD323



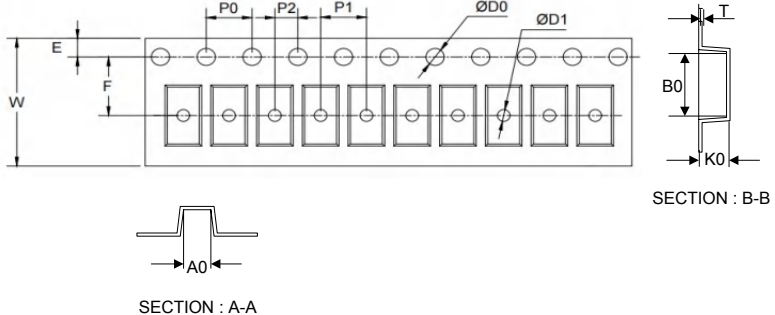
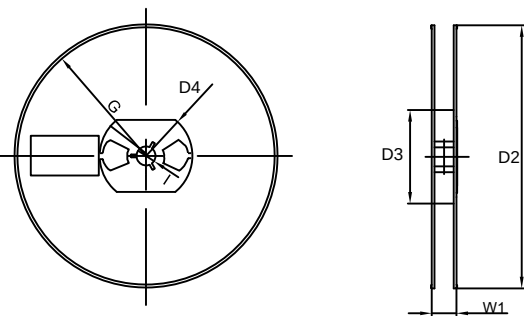
SOD-323 mechanical data

UNIT		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	



Dimensions	Value (in mm)
G	1.40
X	1.20
X1	3.80
Y	1.00

Tape & reel specification

Tape		Symbol	Dimension (mm)
 SECTION : A-A SECTION : B-B		P0	4.00±0.20
		P1	4.00±0.20
		P2	2.00±0.20
		D0	1.55±0.20
		D1	1.00±0.20
		E	1.55±0.25
		F	3.60±0.20
		W	8.00±0.20
		A0	2.00±0.20
		B0	3.25±0.20
		K0	1.35±0.20
		T	0.23±0.10
		D2	177.0±5.0
		D3	55Min.
		D4	R24.6±2.0
7" Reel		G	R82.0±2.0
		I	13.0±2.0
		W1	10.20±3.0
		Quantity: 3000PCS	