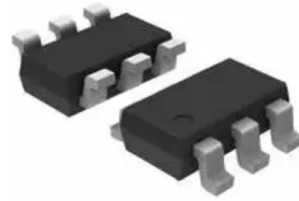


Features

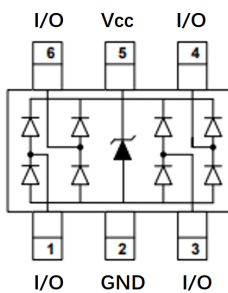
- * Ultra low leakage: nA level
- * Low clamping voltage
- * RoHS Compliant
- * REACH & SVHC Compliant
- * Halogen Compliant
- * SOT-23-6L Package



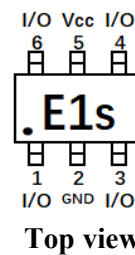
Ordering Information

Part Number	Packaging	Reel Size
ESDS304DBVR-CN	3000/Tape & Reel	7 inch

Circuit Diagram

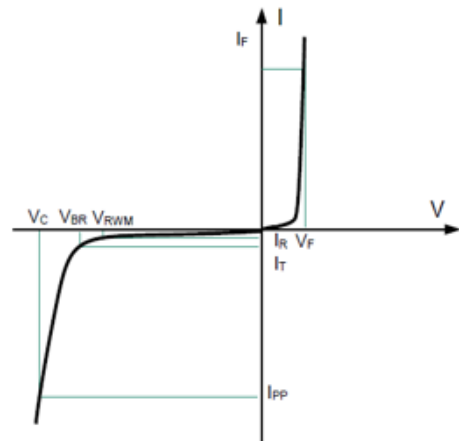


Marking Diagram



Portion Electronics Parameter

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}



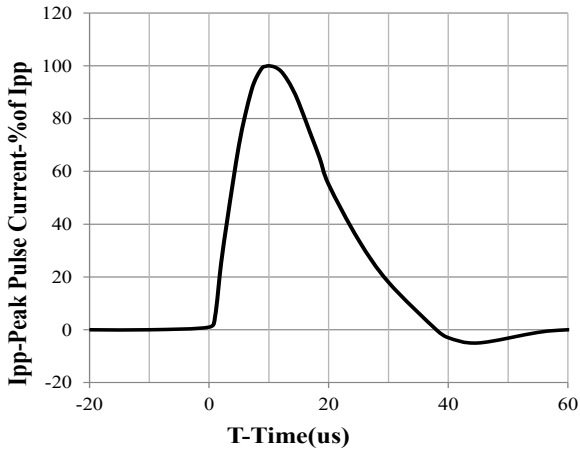
Absolute Maximum Ratings ($T_A=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μ s, I/O-GND)	Ppk	480	W
Peak Pulse Power (8/20 μ s, VCC-GND)	Ppk	600	W
Peak Pulse Current (8/20 μ s, I/O-GND)	I_{PP}	24	A
Peak Pulse Current (8/20 μ s, VCC-GND)	I_{PP}	40	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	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}C$

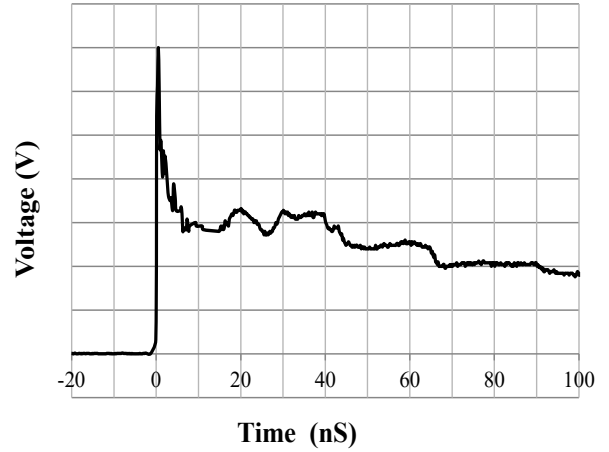
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, I/O-GND	4.1	5.5	6.5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, I/O-I/O	5	6.3	7.5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, VCC-GND	4	4.8	6	V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$			100	nA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 / 20 μs pulse), I/O-GND		6.2	8	V
Clamping Voltage	V_C	$I_{PP} = 20\text{A}$ (8 / 20 μs pulse), I/O-GND		10.4	16	V
Clamping Voltage	V_C	$I_{PP} = 24\text{A}$ (8 / 20 μs pulse), I/O-GND		11	20	V
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 / 20 μs pulse), I/O-I/O		8.4	10	V
Clamping Voltage	V_C	$I_{PP} = 20\text{A}$ (8 / 20 μs pulse), I/O-I/O		19	28	V
Clamping Voltage	V_C	$I_{PP} = 24\text{A}$ (8 / 20 μs pulse), I/O-I/O		24	35	V
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 / 20 μs pulse), VCC-GND		5.3	6.5	V
Clamping Voltage	V_C	$I_{PP} = 20\text{A}$ (8 / 20 μs pulse), VCC-GND		7.5	11	V
Clamping Voltage	V_C	$I_{PP} = 40\text{A}$ (8 / 20 μs pulse), VCC-GND		10	15	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, I/O-GND		2.5	3.5	pF
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, I/O-I/O		1.5	2.5	pF
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, VCC-GND		880	1500	pF

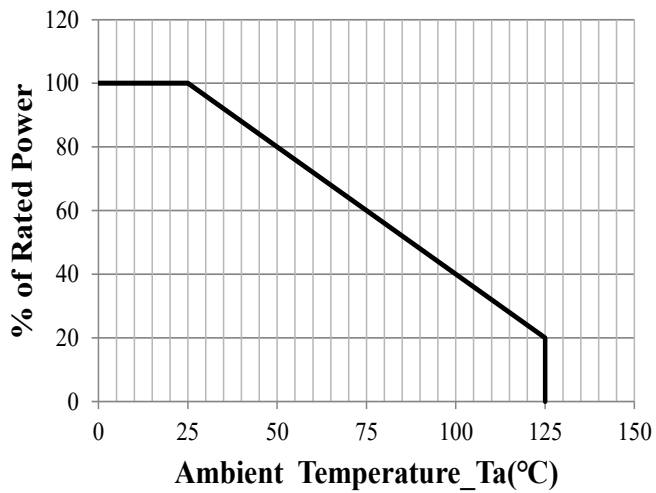
Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



8 / 20us Pulse Waveform

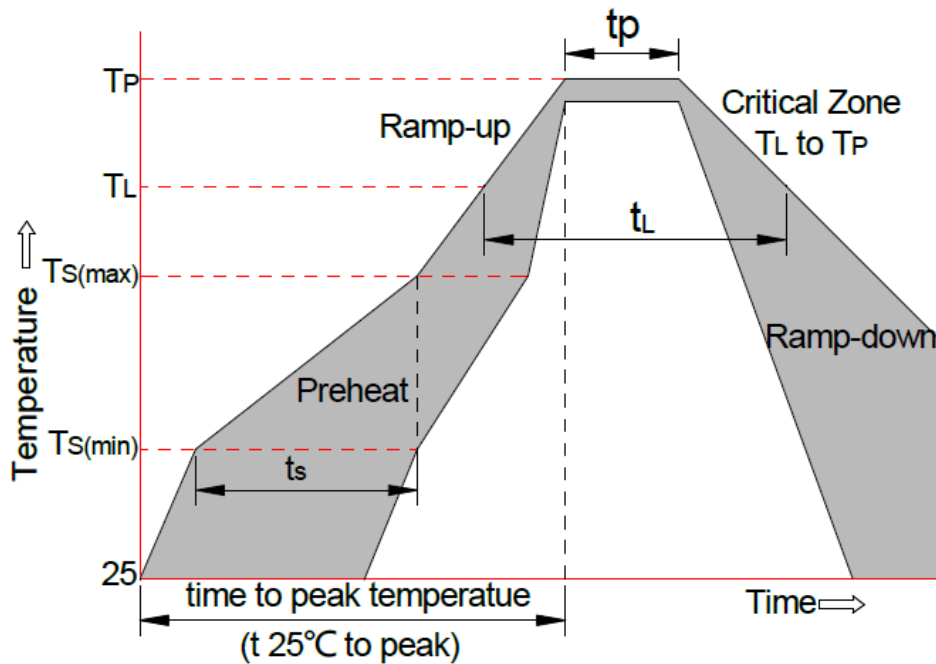


IEC61000-4-2 Pulse Waveform



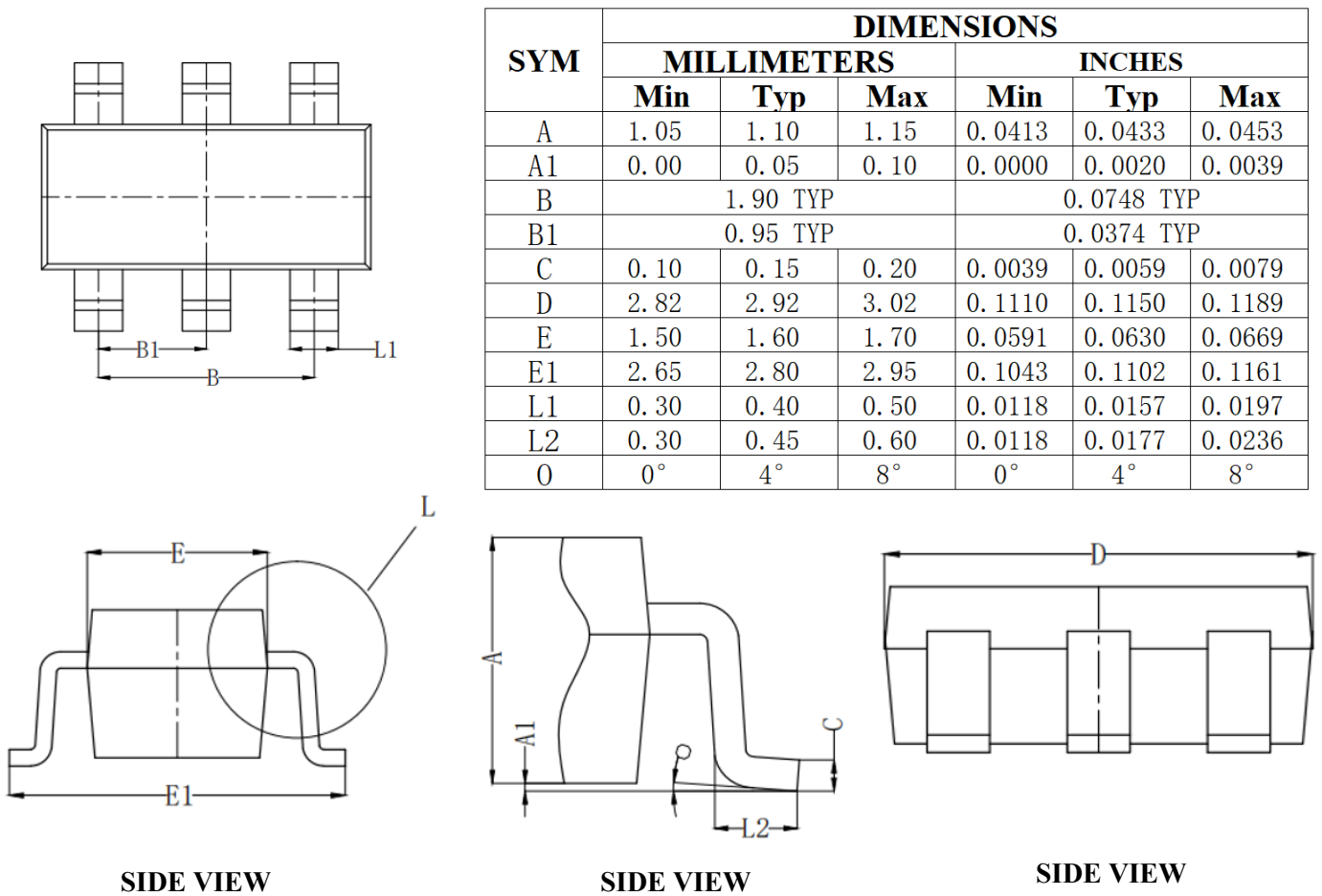
Power Derating Curve

Soldering Parameters

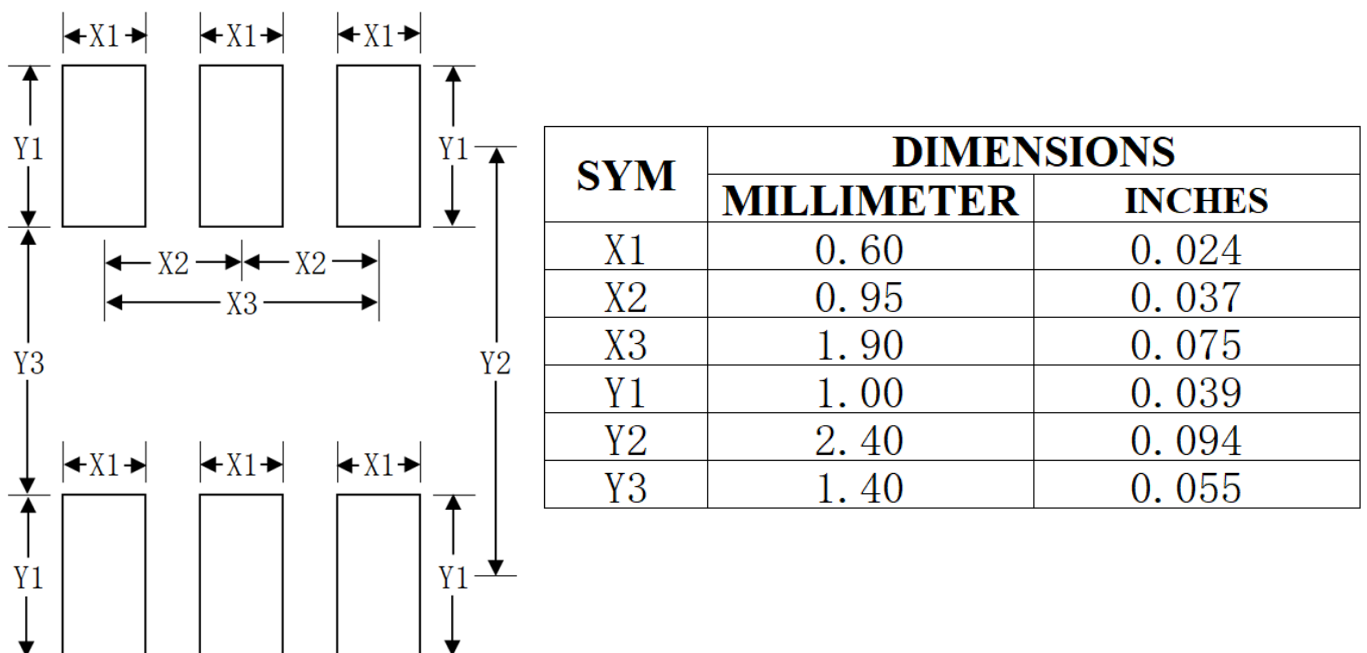


Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min (Ts (min))	+150°C
	-Temperature Max (Ts (max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs
Average ramp up rate(Liquid us Temp (TL) to peak)		3°C/sec. Max
Ts (max) to TL-Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature (TL) (Liquid us)	+217°C
	-Temperature (tL)	60-150 secs
Peak Temp (Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		30 secs. Max
Ramp-down Rate		6 °C/secs. Max
xTime 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C

SOT-23-6L Package Outline Drawing



Suggested Land Pattern



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