

Features

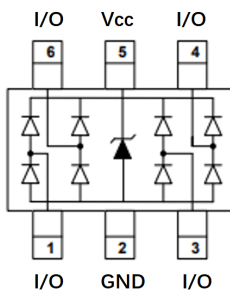
- * Ultra low leakage: nA level
- * Low clamping voltage
- * RoHS Compliant
- * REACH & SVHC Compliant
- * Halogen Compliant
- * SOT-23-6L Package



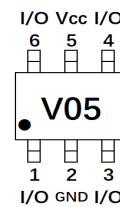
Ordering Information

Part Number	Packaging	Reel Size
E05T2-40RU	3000/Tape & Reel	7 inch

Circuit Diagram



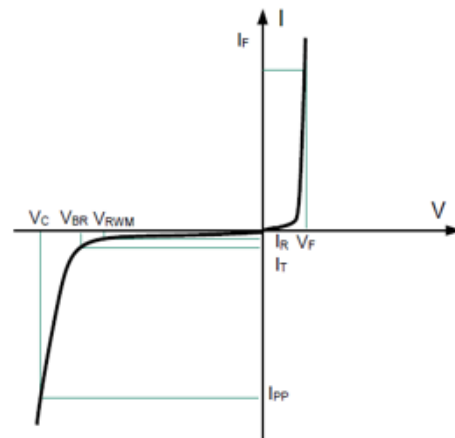
Marking Diagram



Top view

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}



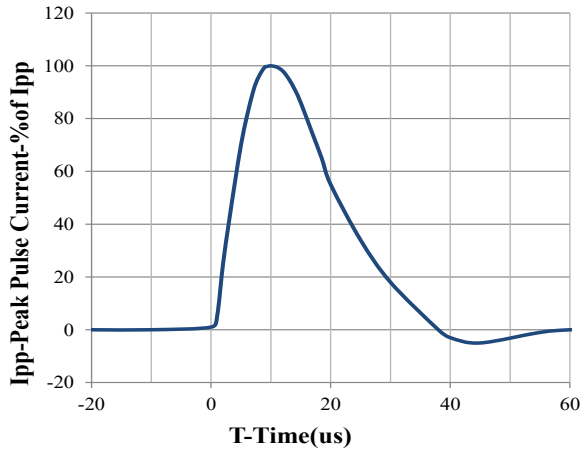
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs , I/O-GND)	Ppk	56	W
Peak Pulse Power (8/20 μs , VCC-GND)	Ppk	306	W
Peak Pulse Current (8/20 μs , I/O-GND)	I_{PP}	4	A
Peak Pulse Current (8/20 μs , VCC-GND)	I_{PP}	17	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 20	kV
ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 15	kV
Operating Temperature Range	T_j	-40 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}\text{C}$

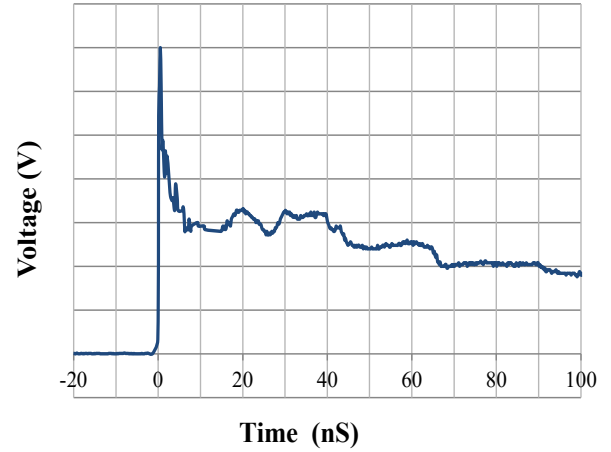
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, I/O-GND	6	7.3	8.5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, I/O-I/O	7	8.3	9.5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, VCC-GND	6	7	8	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$		<5	100	nA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 / 20 μs pulse), I/O-GND		8	12	V
Clamping Voltage	V_C	$I_{PP} = 4\text{A}$ (8 / 20 μs pulse), I/O-GND		11	14	V
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 / 20 μs pulse), I/O-I/O		10	14	V
Clamping Voltage	V_C	$I_{PP} = 4\text{A}$ (8 / 20 μs pulse), I/O-I/O		19	23	V
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 / 20 μs pulse), VCC-GND		7.5	9	V
Clamping Voltage	V_C	$I_{PP} = 17\text{A}$ (8 / 20 μs pulse), VCC-GND		12.5	18	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, I/O-GND		0.6	0.8	pF
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, I/O-I/O		0.3	0.4	pF
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, VCC-GND		142	250	pF

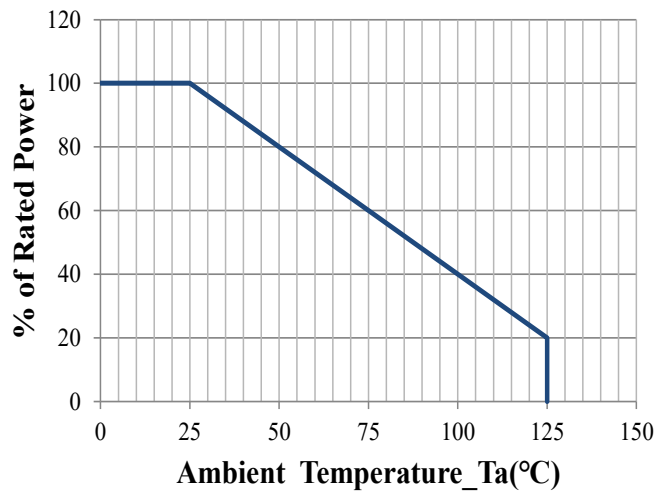
Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



8 / 20us Pulse Waveform

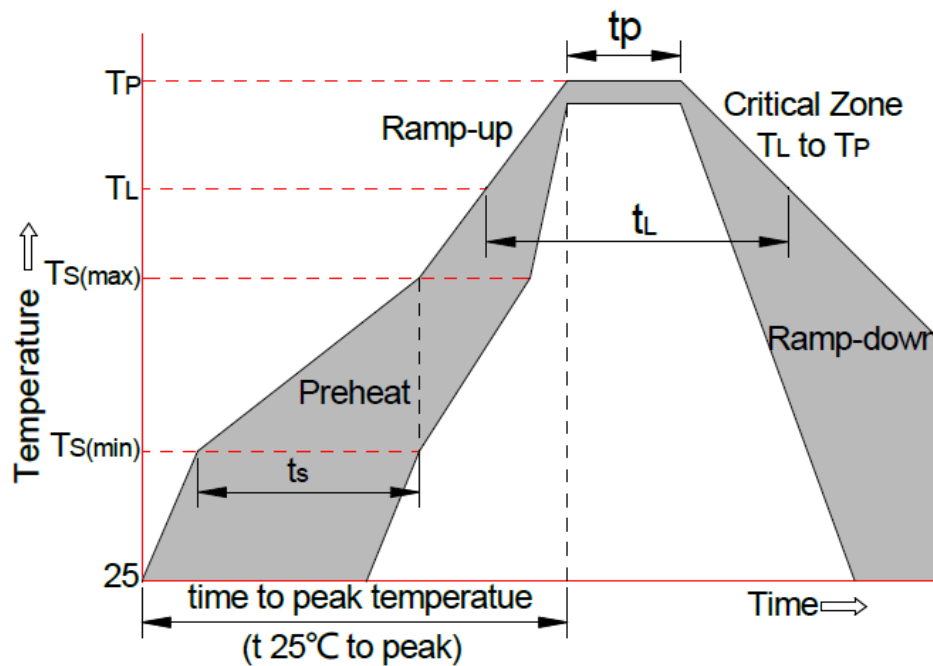


IEC61000-4-2 Pulse Waveform



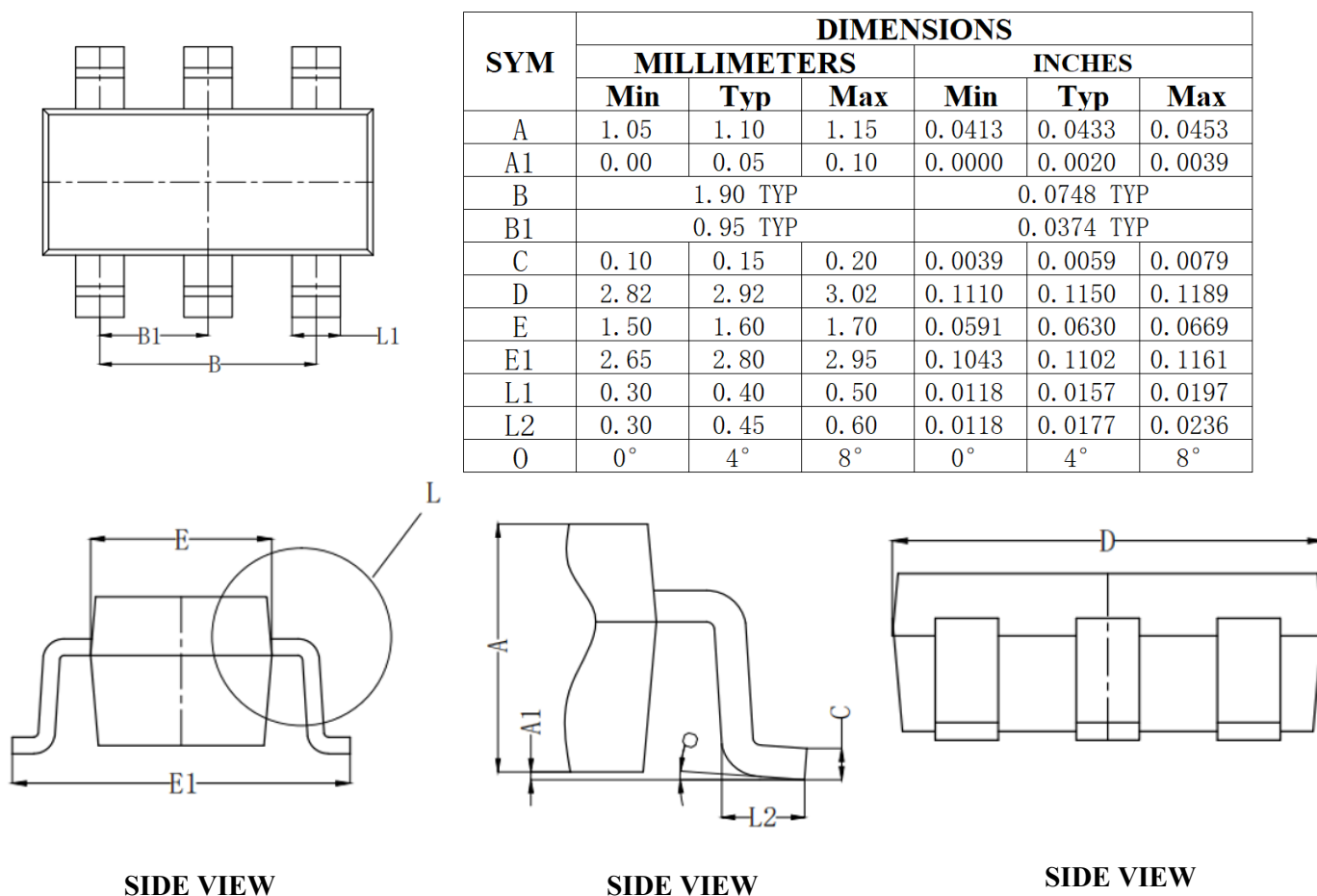
Power Derating Curve

Soldering Parameters

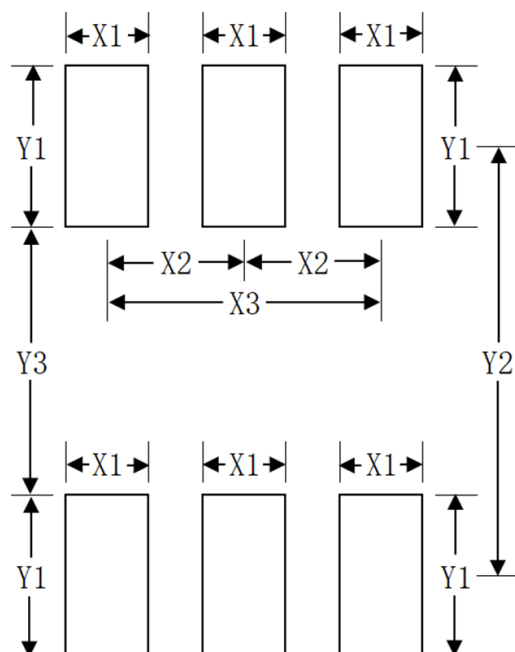


Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min ($T_{S (min)}$)	+150°C
	-Temperature Max ($T_{S (max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs
Average ramp up rate(Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{S (max)}$ to T_L -Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature (T_L) (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/secs. Max
xTime 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

SOT-23-6L Package Outline Drawing



Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETER	INCHES
X1	0.60	0.024
X2	0.95	0.037
X3	1.90	0.075
Y1	1.00	0.039
Y2	2.40	0.094
Y3	1.40	0.055