

DATA SHEET

**ELECTROSTATIC DISCHARGE
PROTECTION DEVICES**

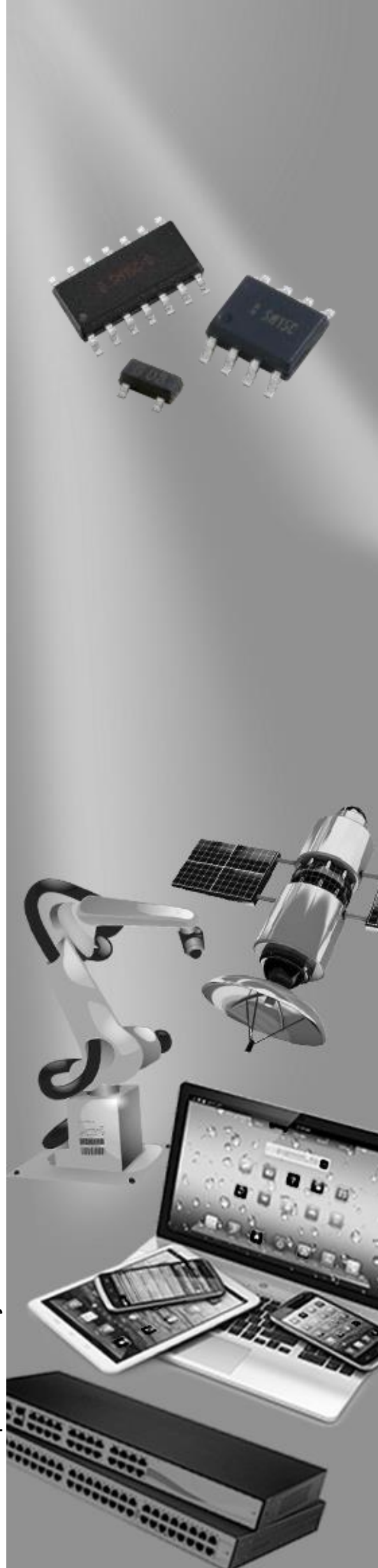
INDUSTRIAL / CONSUMER

SAT36A05L05

RoHS compliant & Halogen free



Product specification— June 30, 2023 V.2



Electrostatic Discharged Protection Devices (ESD) Data Sheet

Description

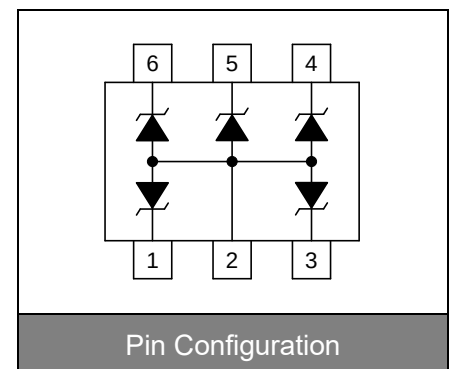
Brightking's SAT36A05L05 is designed to protect sensitive electronics from damage or latch-up due to ESD and other voltage induced transient events. It is designed for use in applications where board space is at a premium. Each device will protect up to five lines. It is unidirectional devices and may be used on lines where the signal polarities are above ground. The low profile SOT-363 package allows flexibility in the design of crowded circuit boards.

Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOT-363 surface mount package
- Protects five unidirectional lines
- Peak power dissipation of 100W under 8/20 μ s waveform
- Working voltage: 5V
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology
- Lead Free/RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270°C
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: WF or 05C

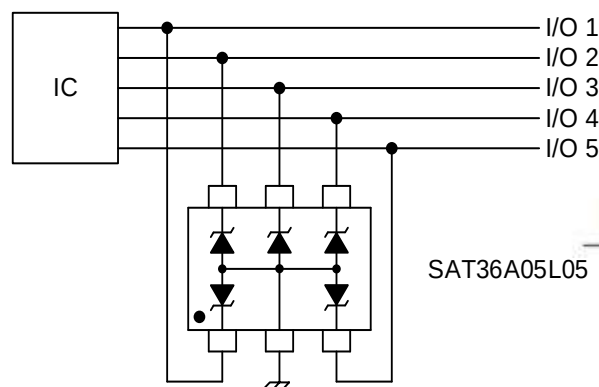


Contact : $\pm 8\text{kV}$
Air : $\pm 15\text{kV}$



Applications

- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Portable instrumentation
- Set Top Box (STB)
- Servers, notebook and desktop PC
- Digital cameras



SAT36A05L05

Maximum Ratings

Rating	Symbol	Value	Unit
Peak pulse power (tp=8/20μs waveform)	P _{PP}	100	W
ESD voltage (Contact discharge)	V _{ESD}	±8	kV
ESD voltage (Air discharge)		±15	
Storage & operating temperature range	T _{STG} , T _J	-55~+150	°C

Electrical Characteristics (T_J=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V _{RWM}				5	V
Reverse breakdown voltage	V _{BR}	I _{BR} =1mA	6			V
Reverse leakage current	I _R	V _R =5V Each I/O pin			5	μA
Clamping voltage (tp=8/20μs)	V _C	I _{PP} =1A			9.8	V
Peak Pulse Current(tp=8/20μs)	I _{PP}				5	A
Off state junction capacitance	C _J	0Vdc, f=1MHz Between I/O pins and GND			50	pF

Typical Characteristics Curves

Figure 1. Power Derating Curve

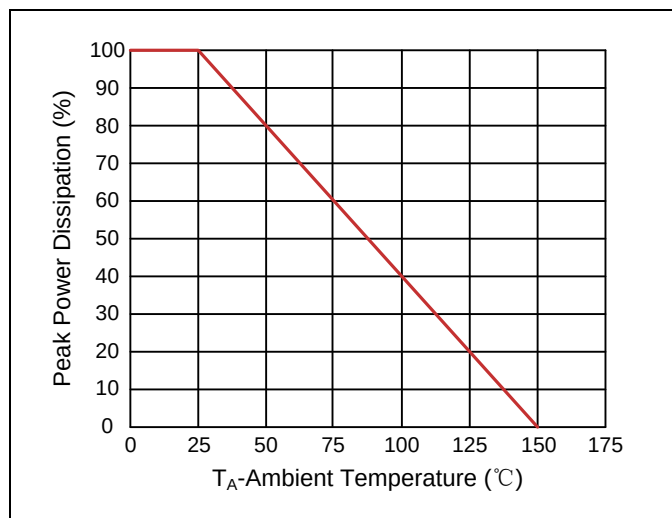


Figure 2. Pulse Waveforms

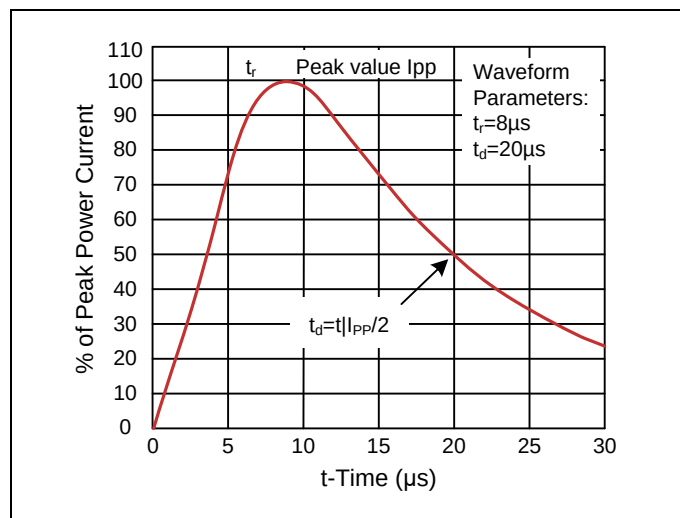


Figure 3. Non-Repetitive Peak Pulse vs. Pulse Time

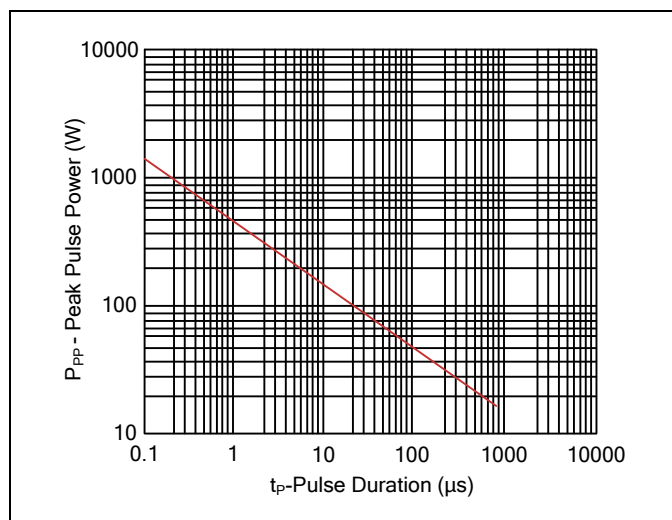
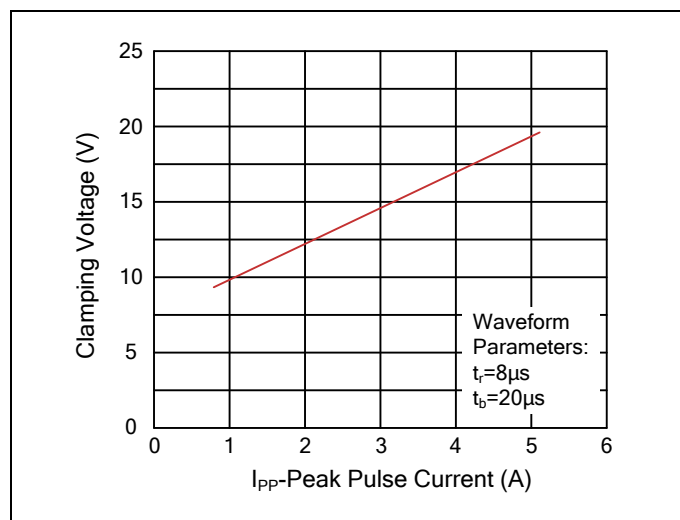
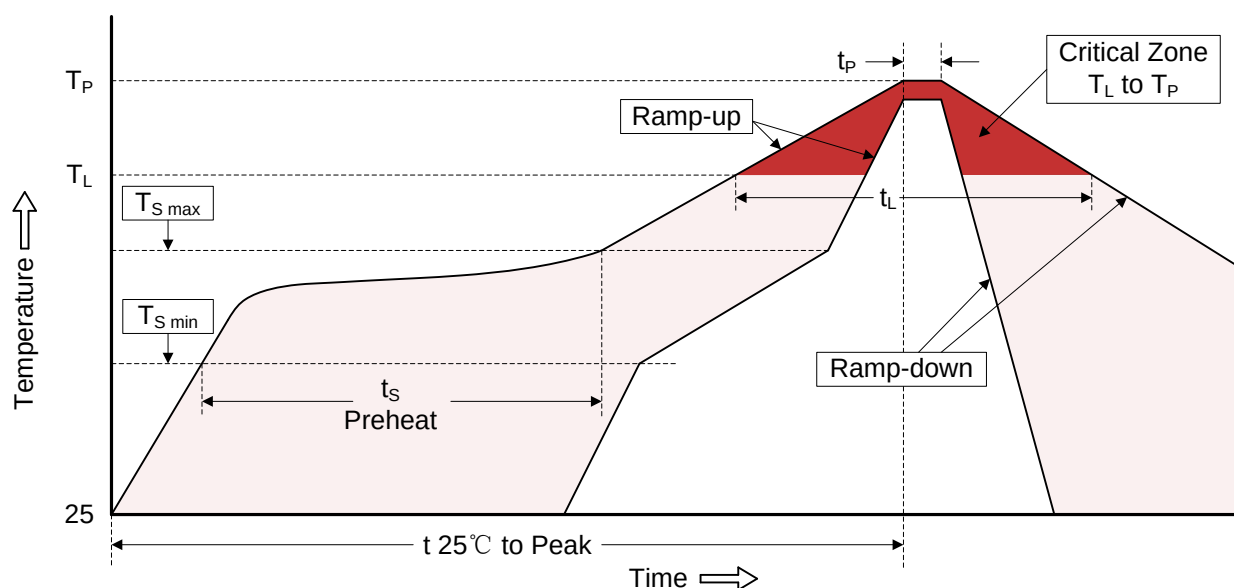


Figure 4. Clamping Voltage vs. Peak Pulse Current



Recommended Soldering Conditions

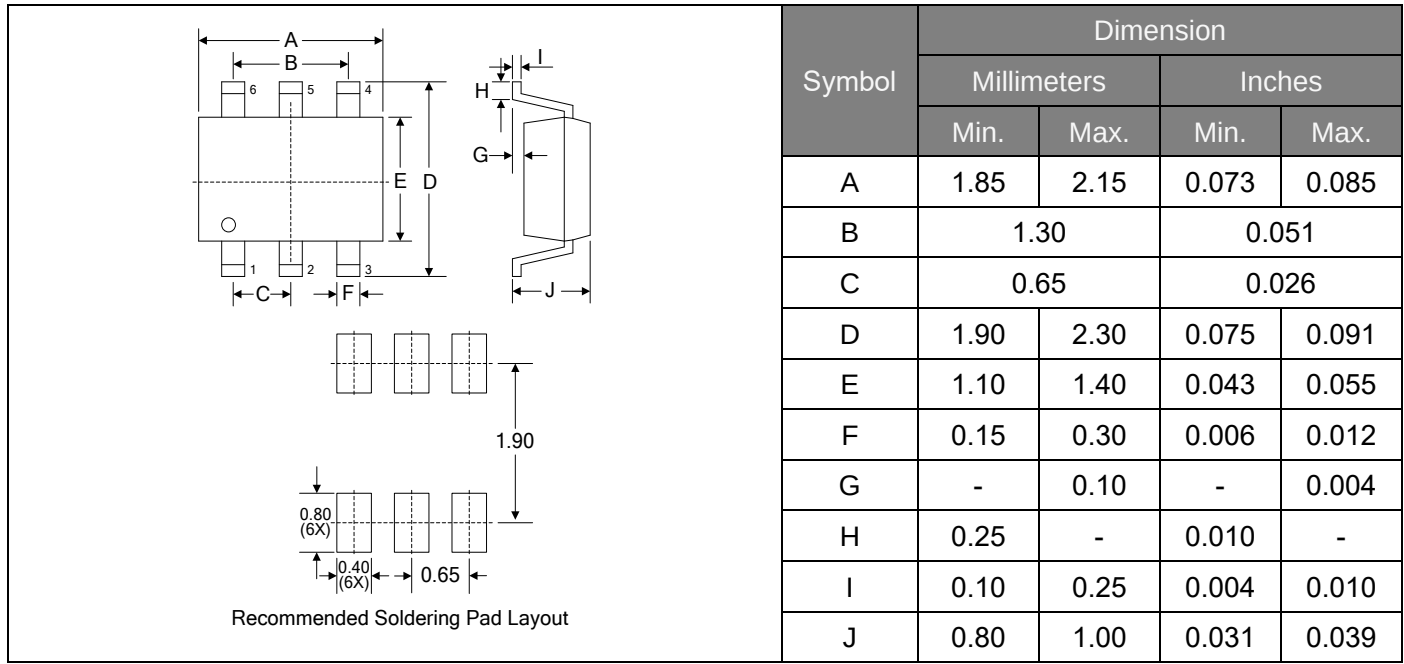
Reflow Soldering



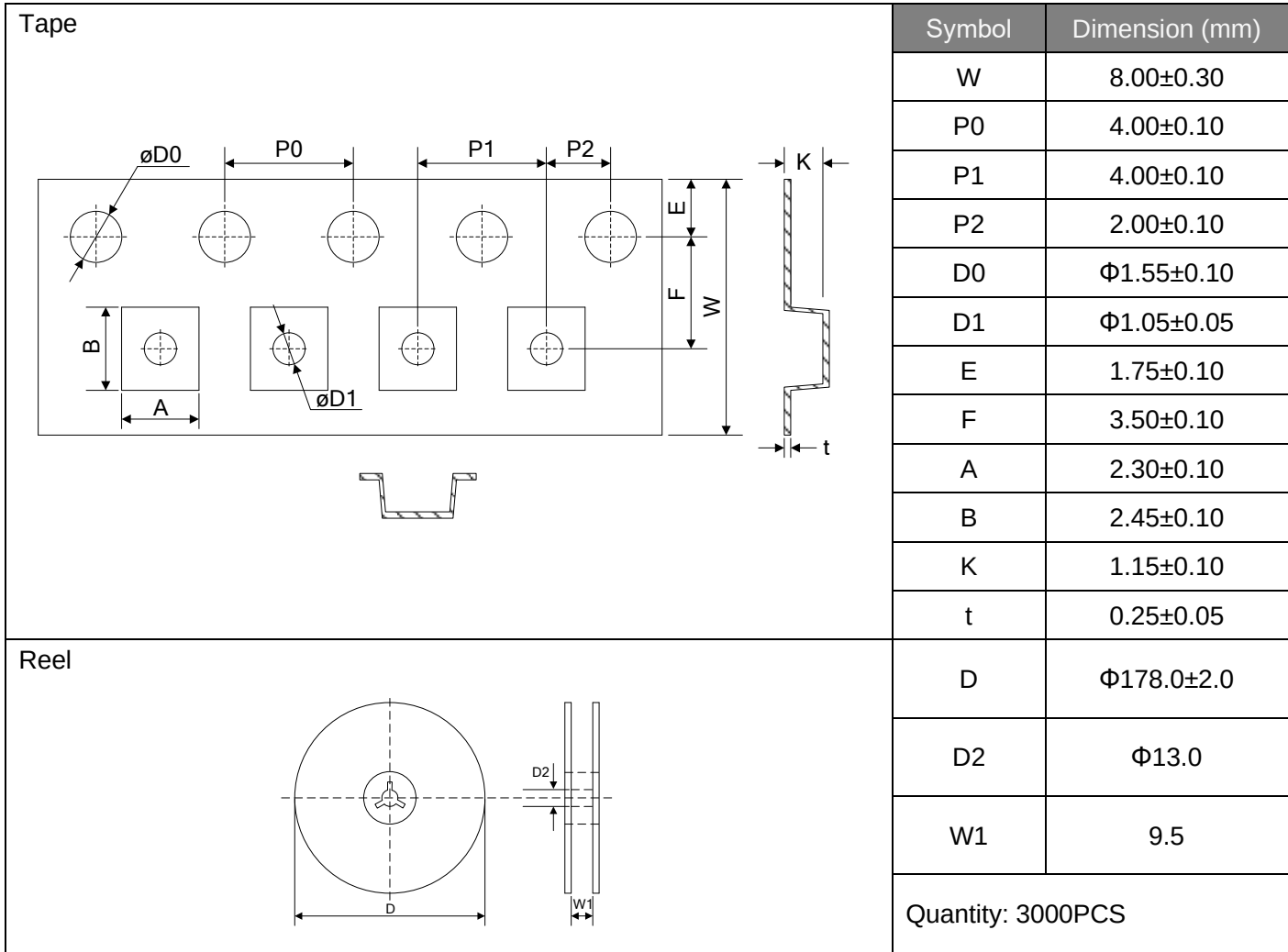
Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_s)	150°C 200°C 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217°C 60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_p)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

Dimensions (SOT-363)



Packaging



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