

Features

- Low clamping voltage
- Low leakage current
- Small package
- Low Voltage Clamping Due To Integrated Zener Diode
- Four Ultra-Low Input Capacitance Rail-to-Rail Protection Diodes
- Lead-free parts meet RoHS requirements.
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Applications

- Digital Cameras
- Portable Instrumentation
- Notebooks, Desktops, and Servers
- Personal Digital Assistants (PDAs)
- Cell phone handsets and accessories

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23-6L
- Terminals :Plated terminals, solderable per MIL-STD-750 Method 2026
- Mounting Position : Any
- Marking code: V05

Package outline

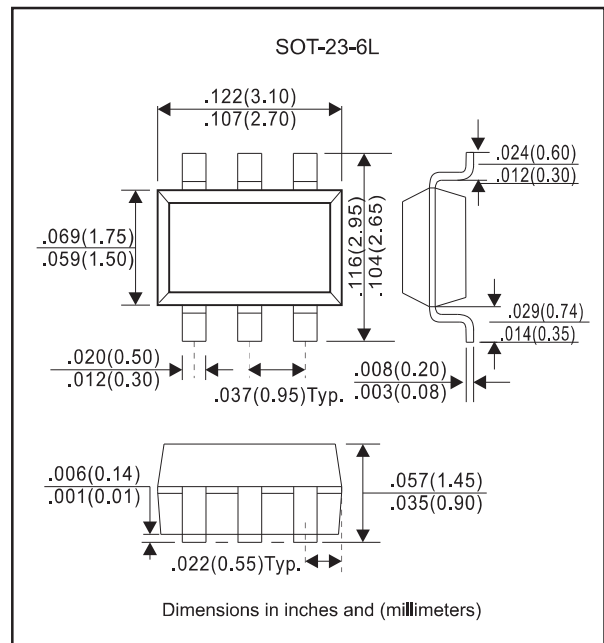


Fig. 1A

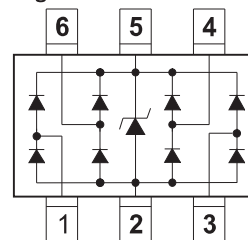
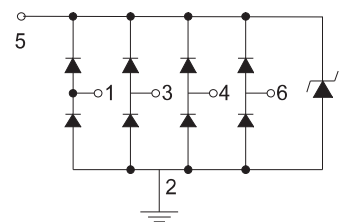


Fig. 1B



Maximum ratings (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Peak pulse power(8/20us)	P_{PP}	60	W
Peak pulse current IEC 61000-4-5(8/20us)	I_{PP}	4	A
ESD per IEC 61000-4-2(air) ESD per IEC 61000-4-2(contact)	V_{ESD}	± 15 ± 15	kV
Operating junction temperature range	T_{opr}	-55 to +125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Reverse working voltage	any I/O pin to GND	V_{RWM}			5.0	V
Reverse breakdown voltage	$I_T = 1\text{mA}$, any I/O pin to GND	V_{BR}	6.0			V
Reverse leakage current	$V_{RWM} = 5\text{V}$, any I/O pin to GND	I_R			5.0	μA
Clamping voltage	$I_{PP} = 1\text{A}$, $tp = 8/20\mu\text{s}$ I/O pin to GND	V_{C1}			11	V
	$I_{PP} = 4\text{A}$, $tp = 8/20\mu\text{s}$ I/O pin to GND	V_{C2}			15	V
Junction capacitance Between channel	$V_R = 0\text{V}$, $f = 1\text{MHz}$, between I/O pins	C_{J1}		0.5		pF
Junction capacitance Between I/O and GND	$V_R = 0\text{V}$, $f = 1\text{MHz}$, any I/O pin to GND	C_{J2}		1.0		pF

Rating and characteristic curves

Figure 1: Peak Pulse Power vs. Pulse Time

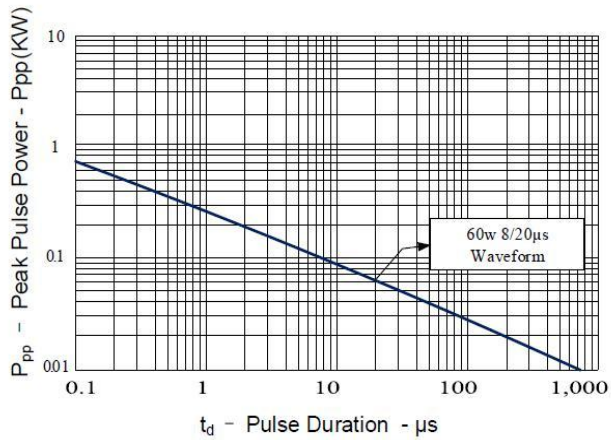


Figure 2: Power Derating Curve

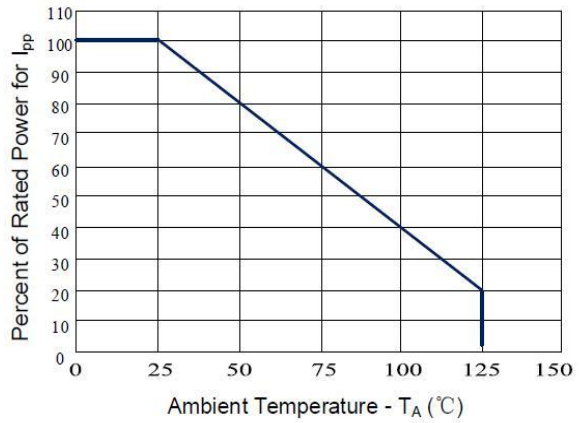


Figure 3: Capacitance vs. Reverse Voltage

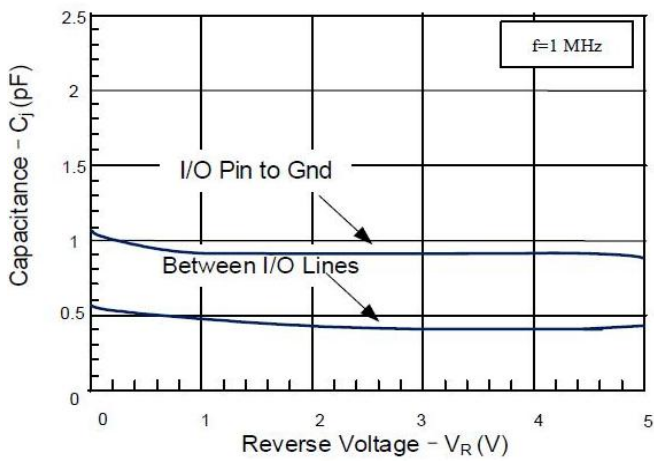


Figure 4: Clamping Voltage vs. Peak Pulse Current

