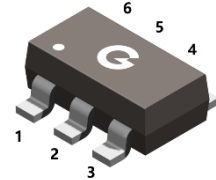
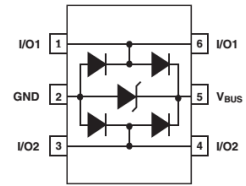


Features

- Transient Protection for Data&Power Lines to IEC 61000-4-2(ESD) $\pm 30\text{kV}(\text{air})$, $\pm 30\text{kV}(\text{contact})$ IEC61000-4-4 (EFT) 40A (5/50ns)
- 2 Data-line Protection
- Protects VBUS
- Very Low Capacitance: 0.4 pF max.
- Very Low Leakage Current: 100 nA max.
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

HF



SOT-23-6L

Mechanical Data

- Case: SOT-23-6L
- Molding Compound, UL Flammability Classification Rating 94V-0
- Terminals: Tin Plated Leads, Solderable per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping	Marking Code
TSRV05B	SOT-23-6L	3000 pcs / Tape & Reel	.V05B

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

Characteristic	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	100	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	6	A
Reverse Stand-off Voltage	V_{RWM}	5	V
ESD According to IEC61000-4-2 Air	V_{ESD}	30	KV
ESD According to IEC61000-4-2 Contact Discharge		30	

Thermal Characteristics

Parameter	Symbol	Value	Unit
Junction Temperature	T_J	-55 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 conditions	Min.	Typ.	Max.	Unit
Leakage Current	I_{RM}	$V_{RM} = 5V$	-	-	100	nA
Breakdown Voltage	V_{BR}	$I_R = 1mA$, Between V_{BUS} and GND	6.5	-	9.0	V
Forward Voltage	V_F	$I_F = 10mA$	-	-	1.1	V
Clamping Voltage	V_{CL}	$I_{PP} = 1A, t_P = 8/20\mu s$, Any I/O pin to GND	-	-	9.5	V
		$I_{PP} = 6A, t_P = 8/20\mu s$	-	-	14	V
Clamping Voltage	V_{CL}	$I_{PP} = 9A, t_P = 8/20\mu s$, V_{BUS} pin to GND	-	-	14	V
Junction Capacitance	$C_{I/O-GND}$	$V_R = 0V$, $f = 1MHz$	-	-	0.9	pF
	$C_{I/O-I/O}$	$V_R = 0V$, $f = 1MHz$	-	-	0.4	pF

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

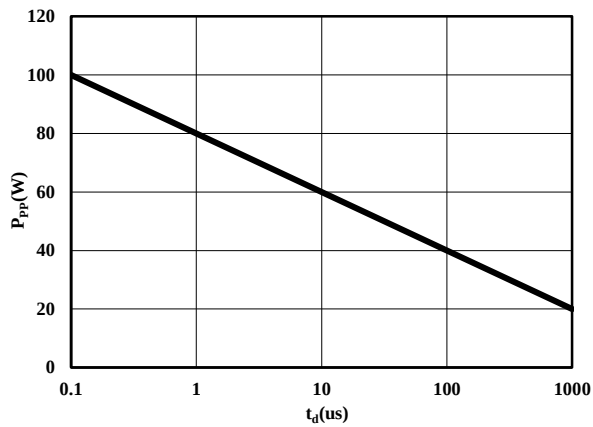


Fig1. Peak Pulse Power vs. Pulse Time

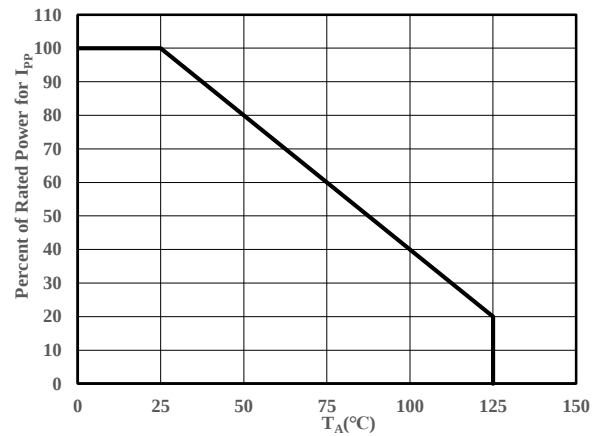


Fig2. Power Derating Curve

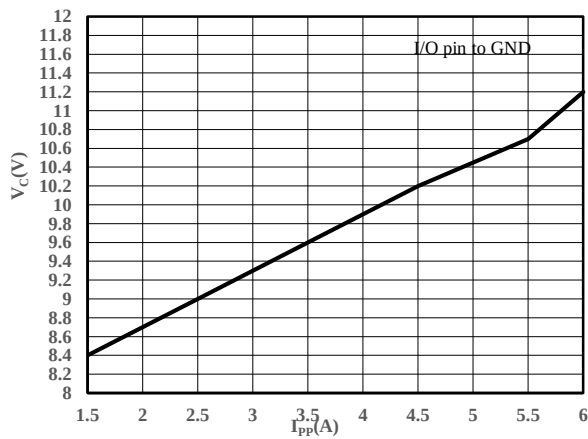


Fig3. Clamping Voltage vs. Peak Pulse Current

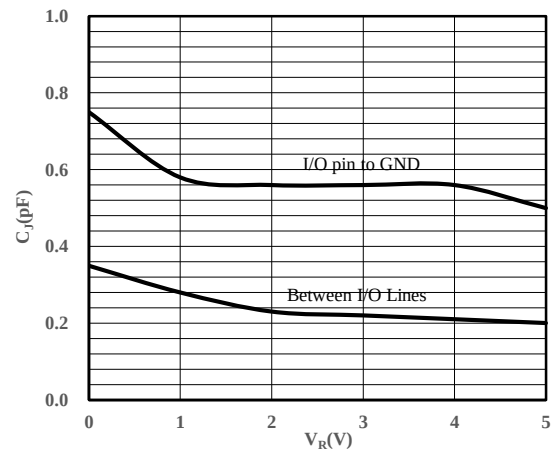


Fig4. Capacitance vs. Reverse Voltage

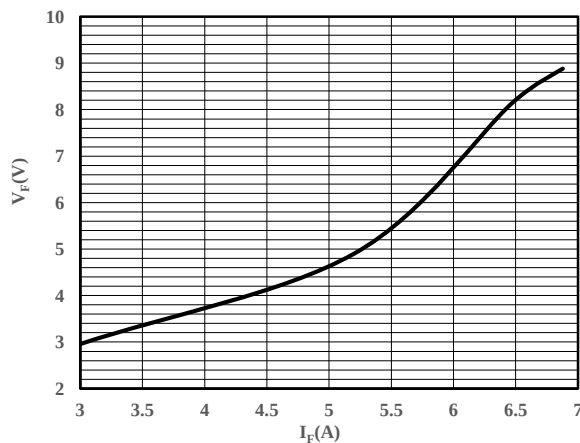


Fig5. Forward Voltage vs. Forward Current

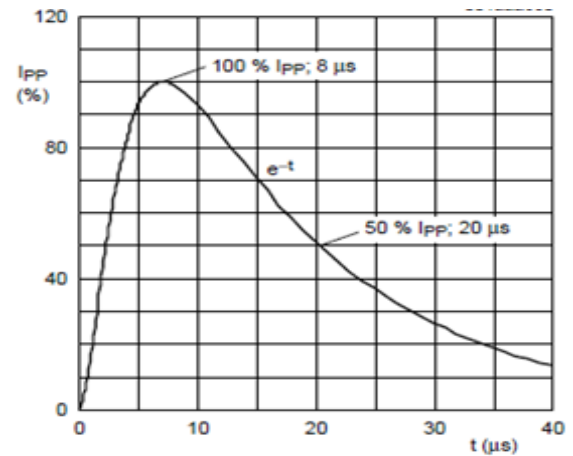


Fig6. 8/20us pulse waveform according to IEC61000-4-5

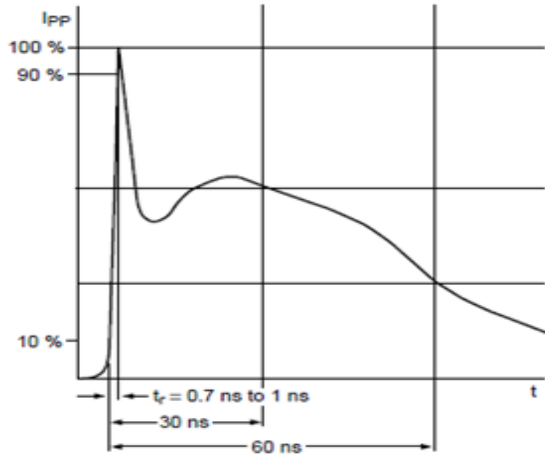
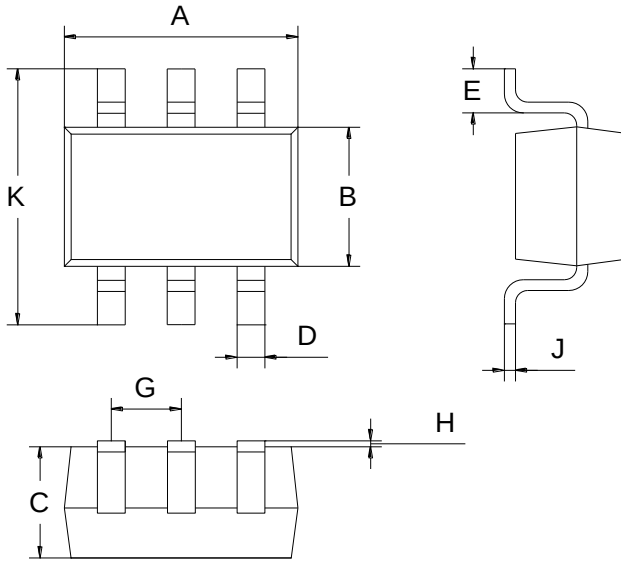


Fig7. ESD pulse waveform according to

IEC61000-4-2

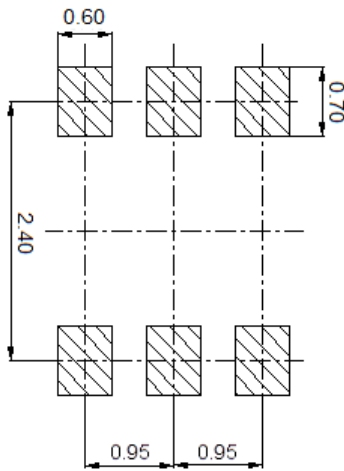
Package Outline Dimensions (unit: mm)

SOT-23-6L



SOT-23-6L		
Dim	Min	Max
A	2.80	3.00
B	1.50	1.70
C	1.00	1.20
D	0.35	0.45
E	0.35	0.55
G	0.90	1.00
H	0.02	0.10
J	0.10	0.20
K	2.60	3.00

Mounting Pad Layout (unit: mm)



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