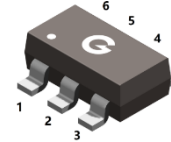
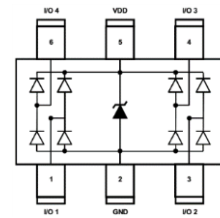


Features

- ESD / transient protection of high speed data lines
 - IEC 61000-4-2 (ESD): ± 15 kV (air), ± 10 kV (contact)
- Working voltage: $V_{RWM} = 5V$
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF



SOT-23-6L

Mechanical Data

- Case: SOT-23-6L
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TSRV05A	SOT-23-6L	3000 pcs / Tape & Reel	05A

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

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air)	V_{ESD-A}	± 15	kV
IEC 61000-4-2; ESD (Contact)	V_{ESD-C}	± 10	kV
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	200	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	12	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	0.45	W
Thermal Resistance Junction-to-Air ^{*1}	$R_{\theta JA}$	165	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case ^{*1}	$R_{\theta JC}$	95	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead ^{*1}	$R_{\theta JL}$	115	$^\circ\text{C/W}$
Junction Temperature Range	T_J	$-55 \sim +125$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	V_{RWM}		-	-	5	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_T = 1\text{mA}$, Any I/O Pin to GND	6	-	-	V
Reverse Leakage Current *2	I_R	$V_{RWM} = 5\text{V}$, Any I/O Pin to GND	-	-	1	μA
Clamping Voltage	V_C	$I_{PP} = 5\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O Pin to GND	-	-	13	V
		$I_{PP} = 12\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O Pin to GND	-	-	18	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Any I/O Pin to GND	-	1.5	2	pF
		$V_R = 0\text{V}$, $f = 1\text{MHz}$ Between I/O pins	-	0.7	1	pF

Notes:

1. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper
2. Short duration pulse test used to minimize self-heating effect

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

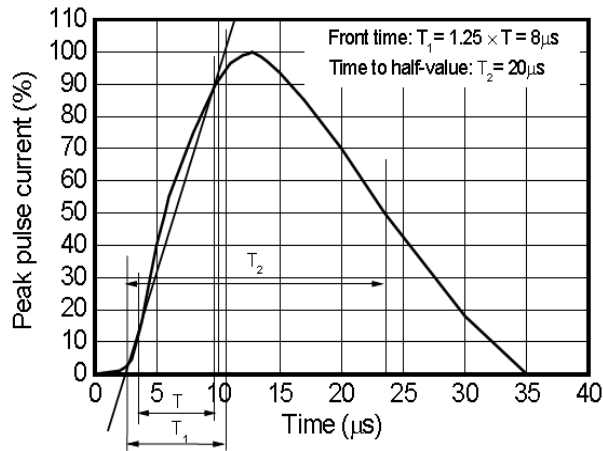


Fig 1 8/20 μs waveform per IEC61000-4-5

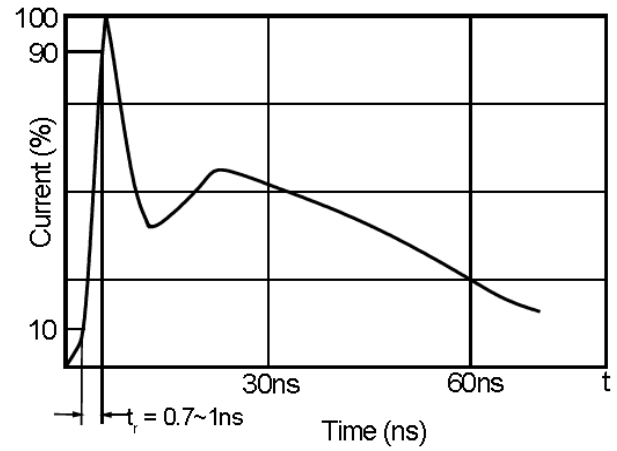


Fig 2 ESD pulse waveform according to IEC61000-4-2

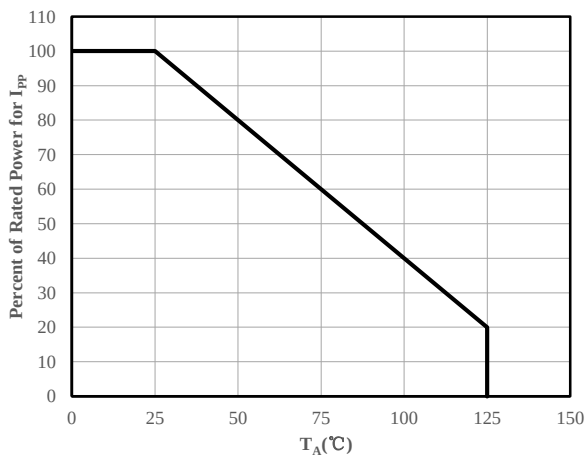


Fig 3 Power Derating Curve

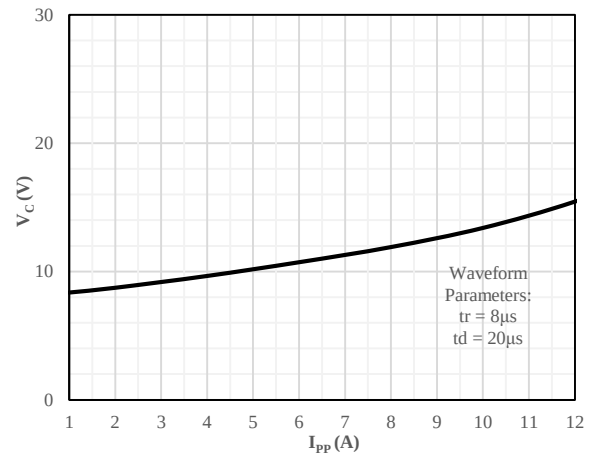


Fig 4 Clamping Voltage vs. Peak Pulse Current

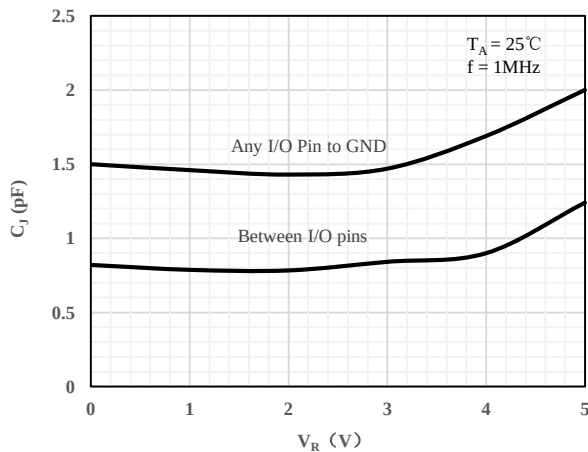
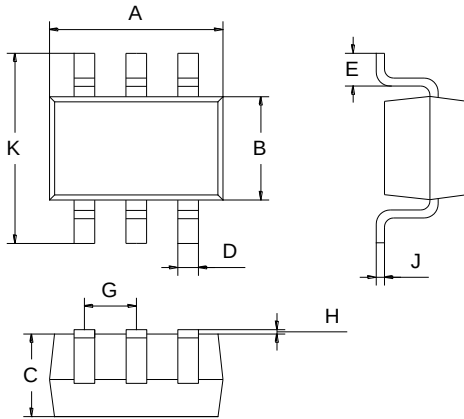


Fig 5 Junction Capacitance vs. Reverse Voltage

Package Outline Dimensions (Unit: mm)



SOT-23-6L		
Dimension	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

Package Outline Dimensions (Unit: mm)

SOT-23-6L

