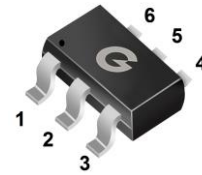
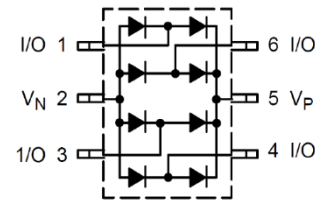


Features

- ESD / transient protection of high speed data lines
 - IEC 61000-4-2 (ESD): ± 15 kV (air), ± 8 kV (contact)
- Working voltage: $V_{RWM} = 70V$
- Low clamping voltage
- Ultra low leakage
- Ultra low capacitance
- Up to 4 data lines and one power line protects
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

HF



SOT-23-6L

Typical Applications

- USB 1.1 and 2.0 Data Line Protection
- T1/E1 Secondary IC Protection
- T3/E3 Secondary IC Protection
- HDSL, IDSL Secondary IC Protection
- Video Line Protection
- Microcontroller Input Protection
- Base Stations

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
TBL7004S2-6L	SOT-23-6L	3000 pcs / Tape & Reel	7004S

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

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air)	$V_{\text{ESD-A}}$	± 15	kV
IEC 61000-4-2; ESD (Contact)	$V_{\text{ESD-C}}$	± 8	kV
Reverse Voltage	V_R	70	V
Repetitive Peak Reverse Voltage	V_{RRM}	70	V
Forward Current	I_F	200	mA
Repetitive Peak Forward Current	I_{FRM}	450	mA
Non-Repetitive Peak Forward Current $t = 1.0 \text{ ms}$	I_{FSM}	1	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air	$R_{\theta\text{JA}}$	556	$^\circ\text{C/W}$
Junction Temperature	T_J	$-40 \sim +125$	$^\circ\text{C}$
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}		-	-	70	V
Reverse Breakdown Voltage	$V_{(\text{BR})}$	$I_T = 1\text{mA}$	85	-	-	V
Reverse Leakage Current	I_R	$V_{\text{RWM}} = 70\text{V}$	-	-	0.2	μA
Forward Voltage	V_F	$I_F = 10\text{mA}$	-	-	1.2	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, between I/O	-	1.5	3	pF
		$V_R = 0\text{V}$, $f = 1\text{MHz}$ any I/O to V_N	-	2.9	5	pF

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

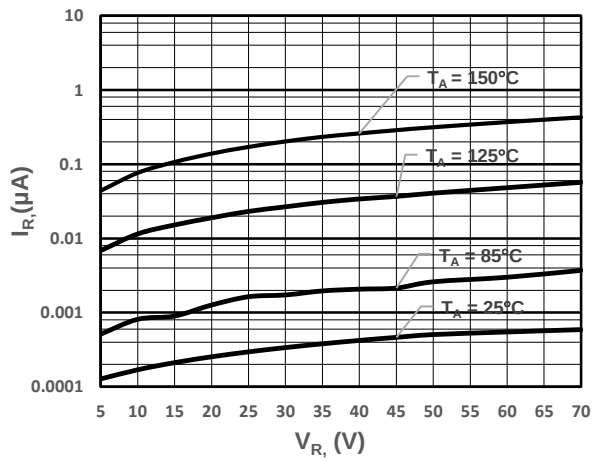


Fig. 1 Typical Reverse Characteristic

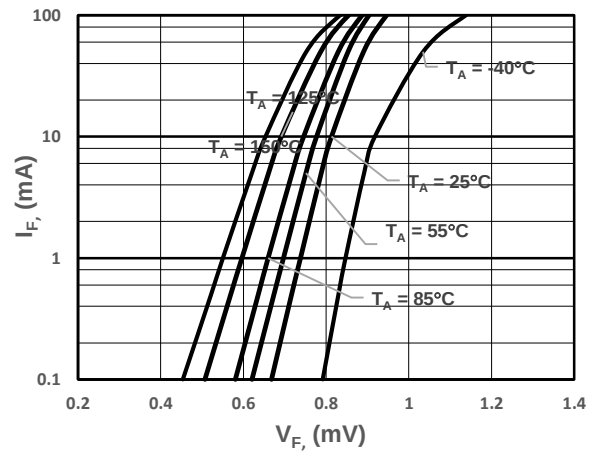


Fig. 2 Typical Forward Characteristic

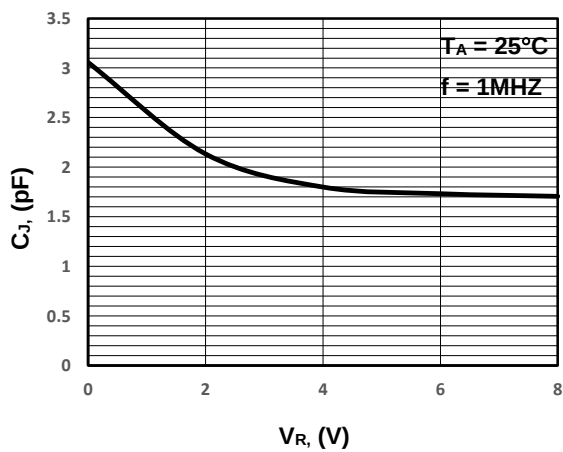
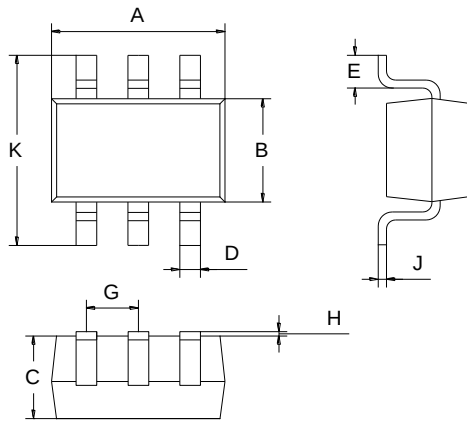


Fig. 3 Junction Capacitance vs. Reverse Voltage

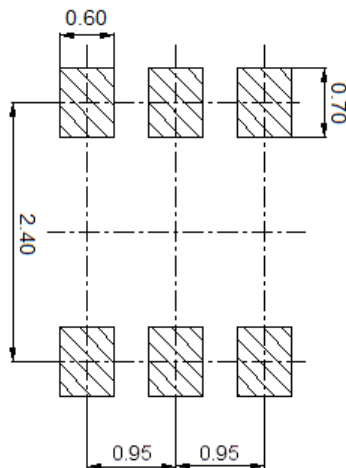
Package Outline Dimensions (Unit: mm)



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



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