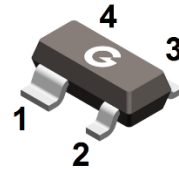
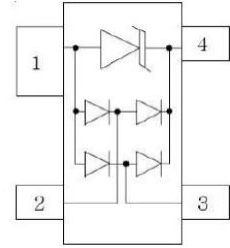


Features

- ESD / transient protection of high speed data lines
 - IEC 61000-4-2 (ESD): ± 30 kV (air), ± 30 kV (contact)
- Low leakage current
- Low clamping voltage
- Low capacitance for high-speed data line
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF



SOT-143

Mechanical Data

- Case: SOT-143
- 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
TLSR05H	SOT-143	3000 pcs / Tape & Reel	E5R

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

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air)	$V_{\text{ESD-A}}$	± 30	kV
IEC 61000-4-2; ESD (Contact)	$V_{\text{ESD-C}}$	± 30	kV
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	500	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	25	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air ^{*1}	$R_{\theta\text{JA}}$	200	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case ^{*1}	$R_{\theta\text{JC}}$	110	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead ^{*1}	$R_{\theta\text{JL}}$	130	$^\circ\text{C/W}$
Junction Temperature Range	T_J	$-55 \sim +125$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

Note 1: The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper

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	$V_{(BR)}$	$I_T = 1\text{mA}$	6	-	9	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$	-	-	0.5	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	9	V
		$I_{PP} = 25\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	20	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$ (I/O to I/O)		3	5	pF
		$V_R = 0\text{V}$, $f = 1\text{MHz}$ (I/O to GND)	-	4	6	pF

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

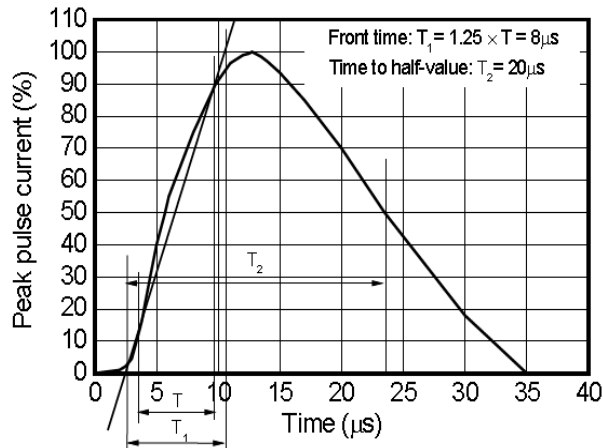


Fig 1 8/20 μs waveform per IEC61000-4-5

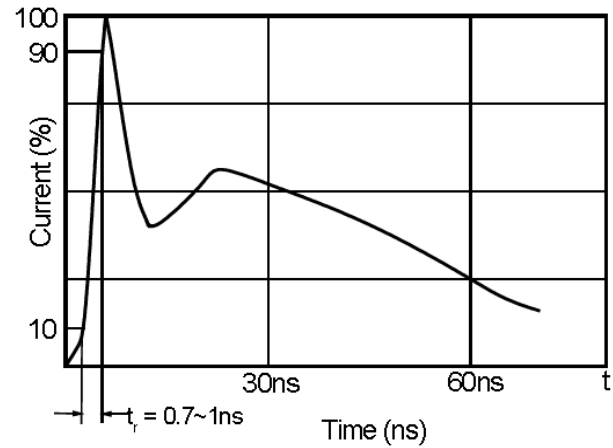


Fig 2 ESD pulse waveform according to IEC61000-4-2

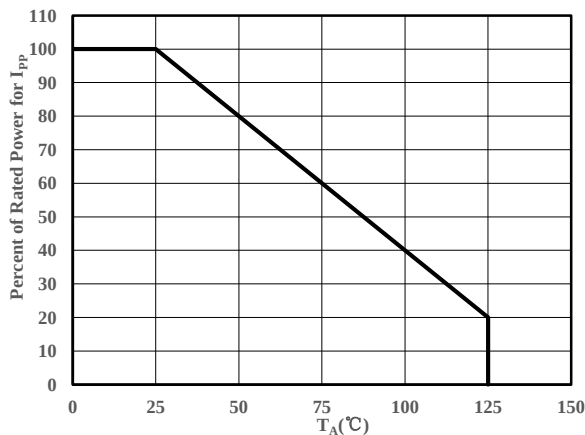
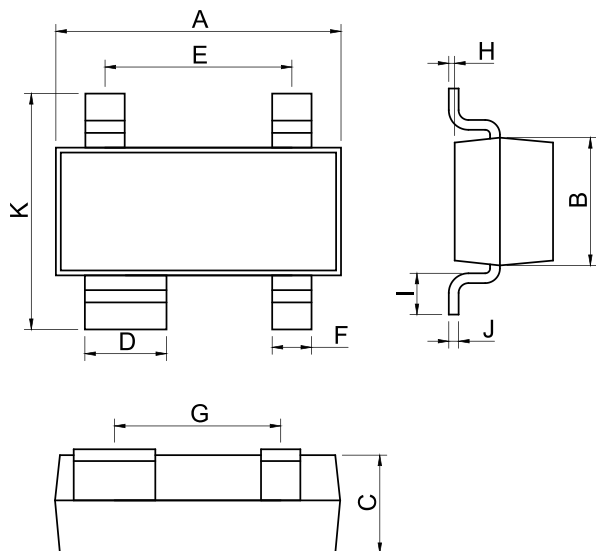


Fig 3 Power Derating Curve

Package Outline Dimensions (Unit: mm)



SOT-143		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.78	0.88
E	1.80	2.00
F	0.37	0.43
G	1.59	1.79
H	0.02	0.10
I	0.30	0.50
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

SOT-143

