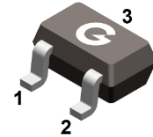
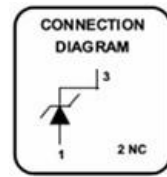


Features

- Tight voltage tolerance: $\pm 5\%$
- Ultra low-profile package well suited for automated assembly
- Moisture sensitivity level 1
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

HF



SOT-323

Mechanical Data

- Case: SOT-323
- 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
TBZX84C12W	SOT-323	3000 pcs / Tape & Reel	KP2

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ^{*1}	P_D	200	mW
Thermal Resistance Junction-to-Air ^{*1}	$R_{\theta JA}$	625	$^{\circ}\text{C/W}$
Thermal Resistance Junction-to-Air ^{*2}	$R_{\theta JA}$	270	$^{\circ}\text{C/W}$
Thermal Resistance Junction-to-Case ^{*2}	$R_{\theta JC}$	175	$^{\circ}\text{C/W}$
Thermal Resistance Junction-to-Lead ^{*2}	$R_{\theta JL}$	200	$^{\circ}\text{C/W}$
Operating Junction Temperature Range	T_J	-55 ~ +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-65 ~ +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Zener Voltage	V_Z	$I_{ZT} = 5\text{mA}$	11.40	12.00	12.60	V
Forward Voltage	V_F	$I_F = 10\text{mA}$	-	-	0.9	V
Maximum Reverse Current	I_R	$V_R = 8\text{V}$	-	-	0.1	μA
Maximum Zener Impedance	Z_{ZT}	$I_{ZT} = 5\text{mA}$	-	-	25	Ω
Maximum Zener Impedance	Z_{ZK}	$I_{ZK} = 1\text{mA}$	-	-	150	Ω
Temperature Coefficient	T_C	$I_{ZT} = 5\text{mA}$	6	8	10	$\text{mV}/^{\circ}\text{C}$

Notes:

1. The data tested by surface mounted on a minimum recommended FR-4 board
2. The data tested by surface mounted on a 25.4mm * 25.4mm * 1mm FR4-epoxy P.C.B

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

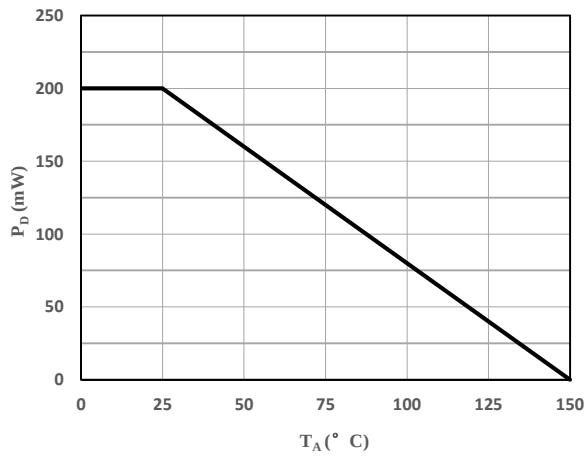


Fig 1 Steady State Power Derating

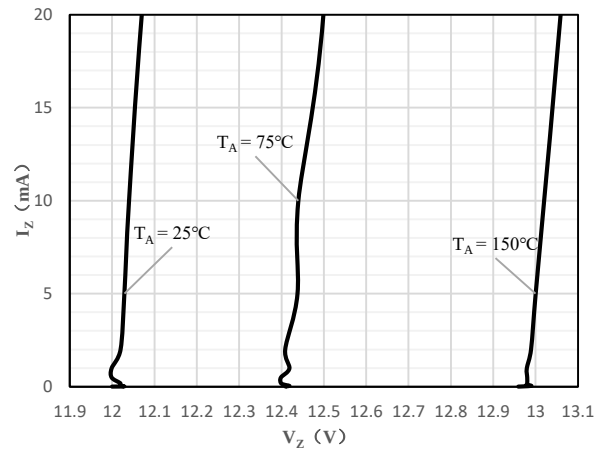


Fig 2 Typical Zener Breakdown Characteristics

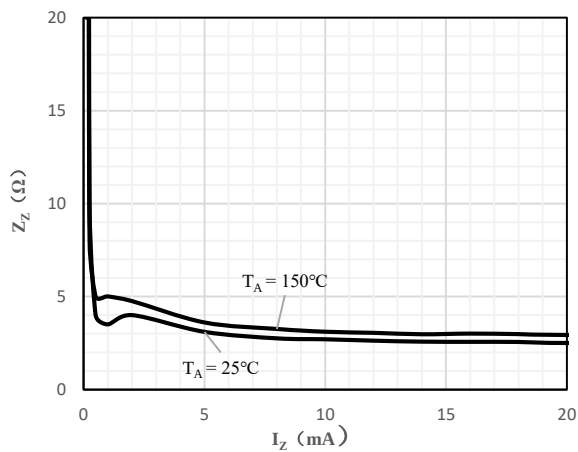


Fig 3 Zener Impedance vs. Zener Current

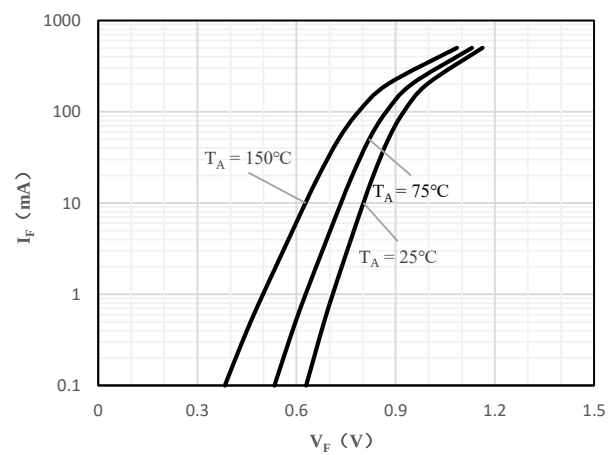


Fig 4 Typical Forward Characteristics

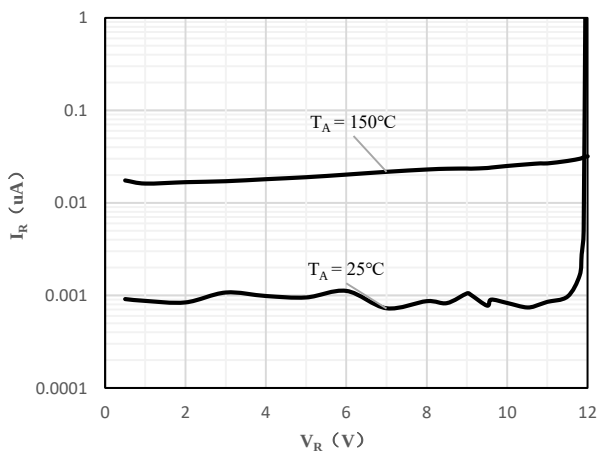
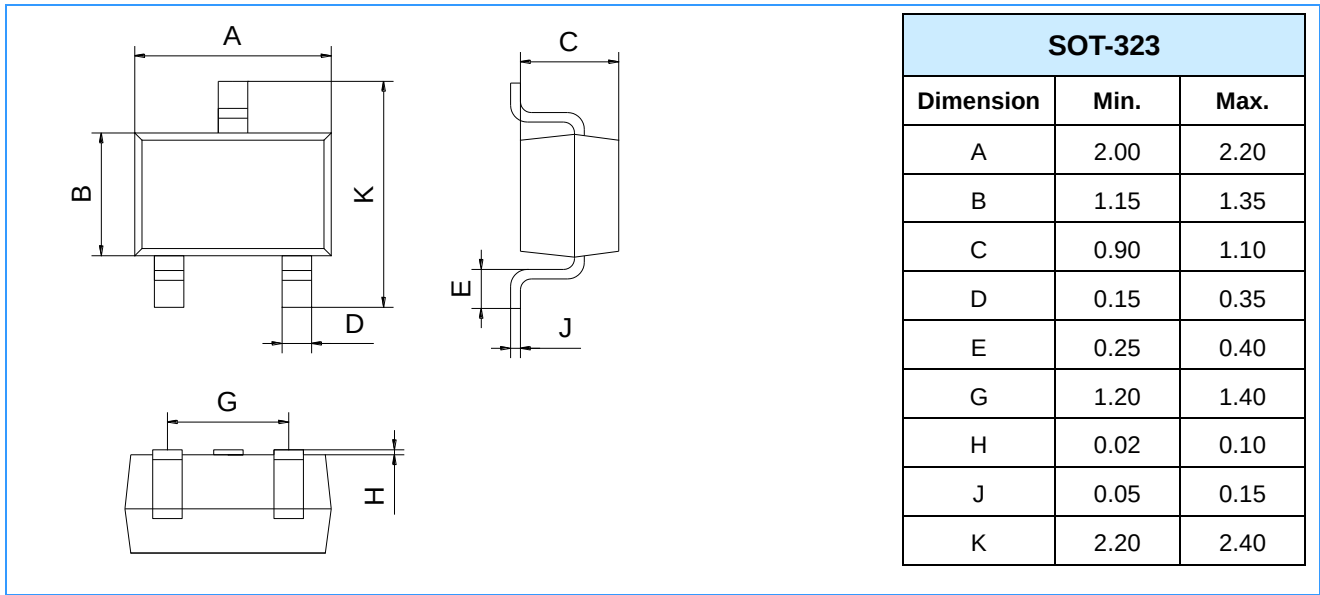
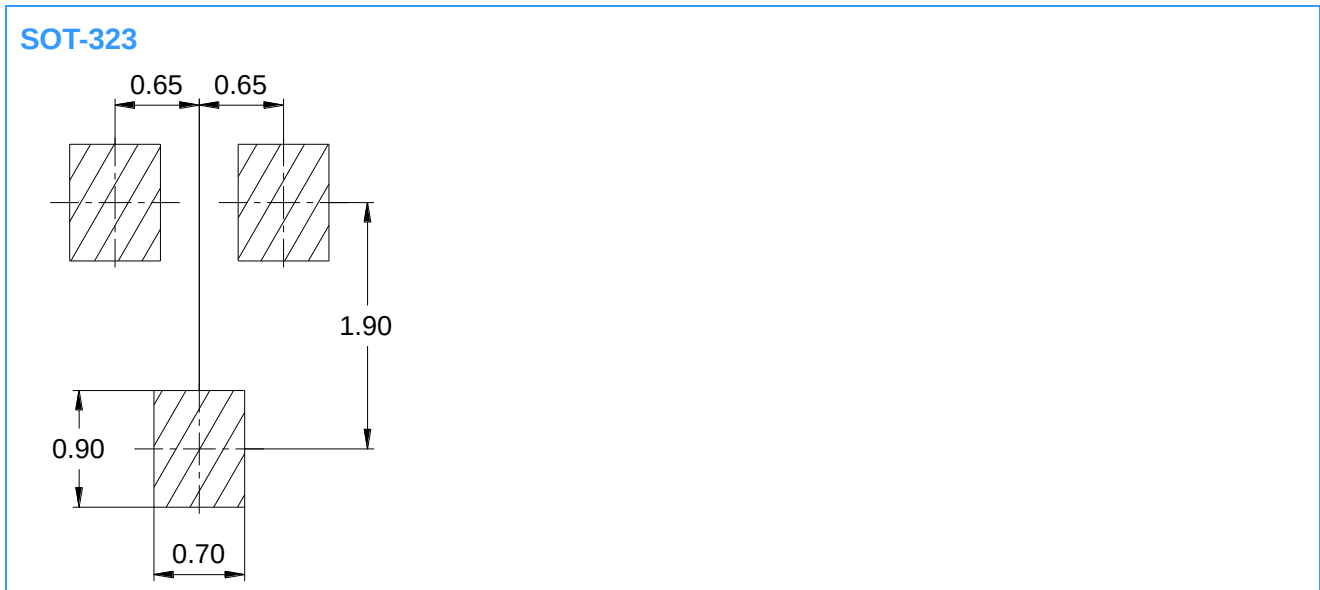


Fig 5 Typical Reverse Characteristics

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



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