Small Signal Schottky Barrier Diode

TBAS70/-04/-05/-06

Features

HF

- Low turn-on voltage
- Fast switching
- PN junction guard ring for transient and ESD protection
- Ultra-small surface mount package
- Also available in lead free version
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

Applications

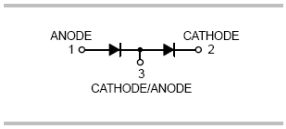
- High speed switching applications
- Circuit protecting
- Voltage clamping

Mechanical Data

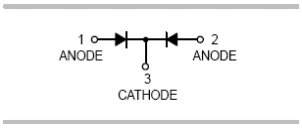
- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



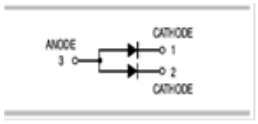
TBAS70



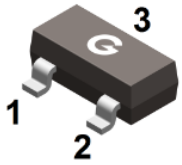
TBAS70-04



TBAS70-05



TBAS70-06



SOT-23

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TBAS70	SOT-23	3000 pcs / Tape & Reel	73
TBAS70-04	SOT-23	3000 pcs / Tape & Reel	74
TBAS70-05	SOT-23	3000 pcs / Tape & Reel	75
TBAS70-06	SOT-23	3000 pcs / Tape & Reel	76

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Peak Reverse Voltage	V_{RRM}	70	V
RMS Reverse Voltage	$V_{R(RMS)}$	49	V
DC Blocking Voltage	V_{DC}	70	V
Forward Continuous Current	I_F	70	mA
Non-repetitive Forward Surge (t_p = 8.3ms)	I_{FSM}	100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T_A = 25°C)	P_D	200	mW
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	170	°C/W
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	100	°C/W
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	110	°C/W
Operating Junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

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

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	I_R = 10μA	70	-	-	V
Forward Voltage	V_F	I_F = 1mA	-	-	0.41	V
		I_F = 15mA	-	-	1	V
Maximum Peak Reverse Current	I_R	V_R = 50V	-	-	0.1	μA
Junction Capacitance	C_J	V_R = 0V, f = 1MHZ	-	-	2	pF
Reverse Recovery Time	t_{rr}	I_F = I_R = 10mA I_{rr} = 0.1×I_R, R_L = 100Ω	-	-	5	ns

Ratings and Characteristic Curves (@ T_A = 25°C unless otherwise specified)

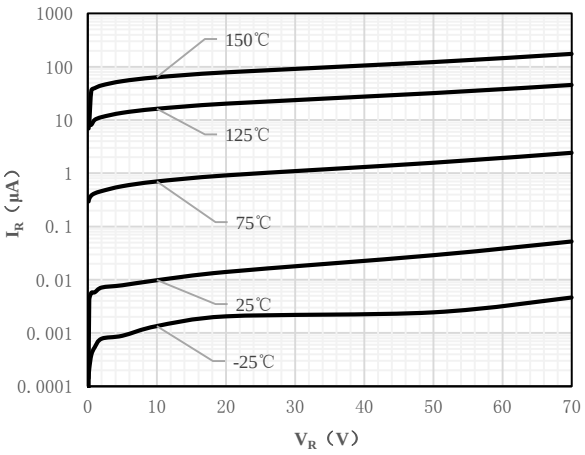


Fig 1 Typical Reverse Characteristic

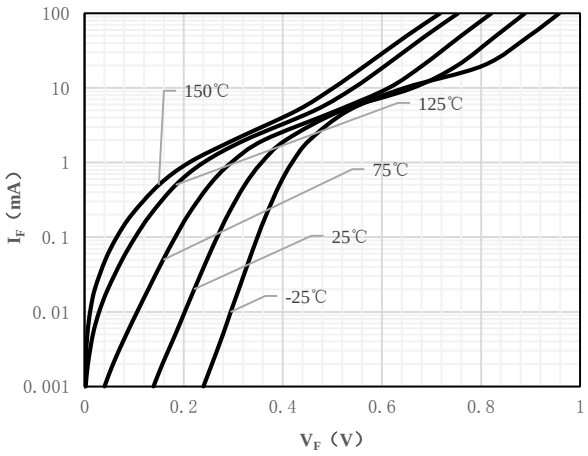


Fig 2 Typical Forward Characteristics

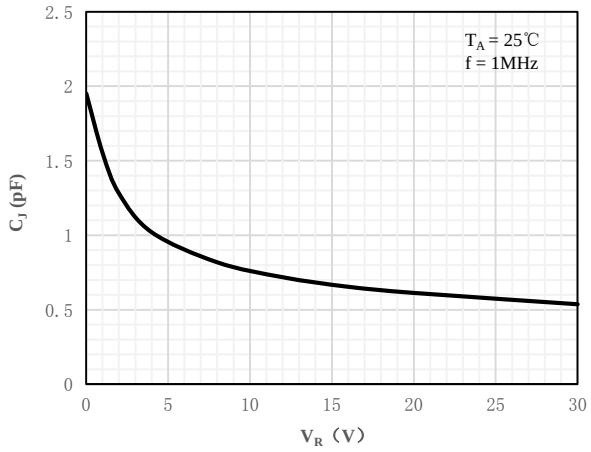


Fig 3 Capacitance vs. Reverse Voltage

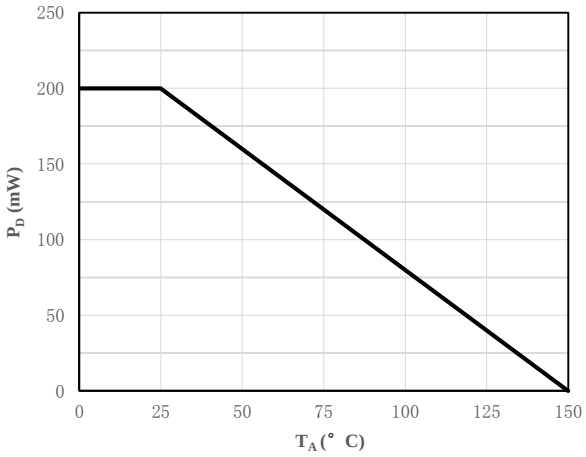
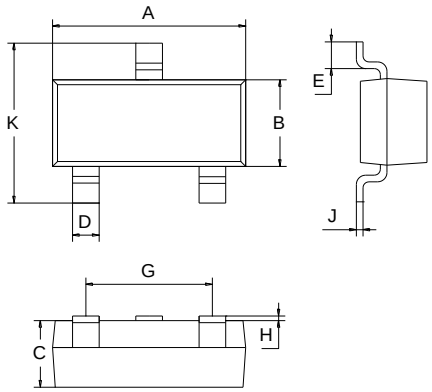


Fig 4 Power Derating Curve

Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	**Min.**	**Max.**
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

SOT-23

