



DESCRIPTION

The MBD3004S is available in SOT-23 Package

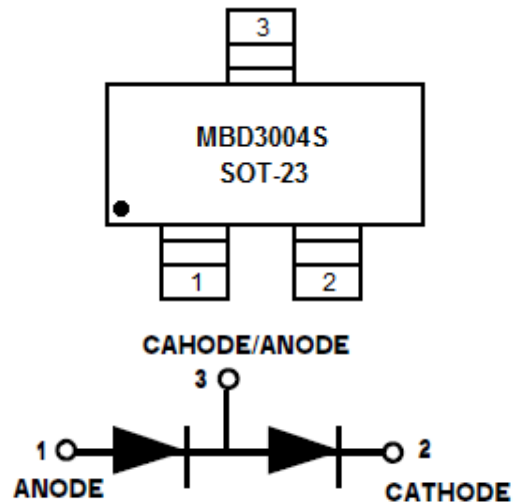
FEATURES

- Fast Switching Speed
- High Conductance
- High Reverse Breakdown Voltage Rating
- Available in SOT-23 Package

ORDERING INFORMATION

Package Type	Part Number
SOT-23	MBD3004S
Note	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

T_A=25°C unless otherwise specified

V _{RRM} , Repetitive Peak Reverse Voltage	350 V	
V _{RWM} , Working Peak Reverse Voltage	300 V	
V _R , DC Blocking Voltage	300 V	
V _{R(RMS)} , RMS Reverse Voltage	212 V	
I _F , Forward Continuous Current ^{Note1}	225mA	
I _{FRM} , Peak Repetitive Forward Current ^{Note1}	625mA	
I _{FSM} , Non-Repetitive Peak Forward Surge Current	@t=1.0μs	4.0A
	@t=1.0s	1.0A
P _D , Power Dissipation ^{Note1}	350mW	
R _{θJA} , Thermal Resistance Junction to Ambient Air ^{Note1}	357 °C/W	
T _J , T _{stg} , Operating and Storage Temperature Range	-65 to +150°C	

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE1: Part mounted on FR-4 board with recommended pad layout.



ELECTRICAL CHARACTERISTICS

T_A=25°C unless otherwise specified, per element

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage ^{Note2}	V _{(BR)R}	I _R =100μA	350	-	-	V
Forward Voltage ^{Note2}	V _F	I _F =20mA	-	0.78	0.87	V
		I _F =100mA		0.93	1.0	
		I _F =200mA		1.03	1.25	
Reverse Current ^{Note2}	I _R	V _R =240V	-	30	100	nA
		V _R =240V, T _J =150°C		35	100	μA
Total Capacitance	C _T	V _R =0V, f=1.0MHZ	-	1.0	5.0	Pf
Reverse Recovery Time	t _{rr}	I _F =I _R =30mA	-	-	50	ns
		I _{rr} =3.0mA, R _L =100Ω				

NOTE2: Short duration test pulse used to minimize self-heating effect.



TYPICAL CHARACTERISTICS

Figure 1. Power Derating Curve, total package

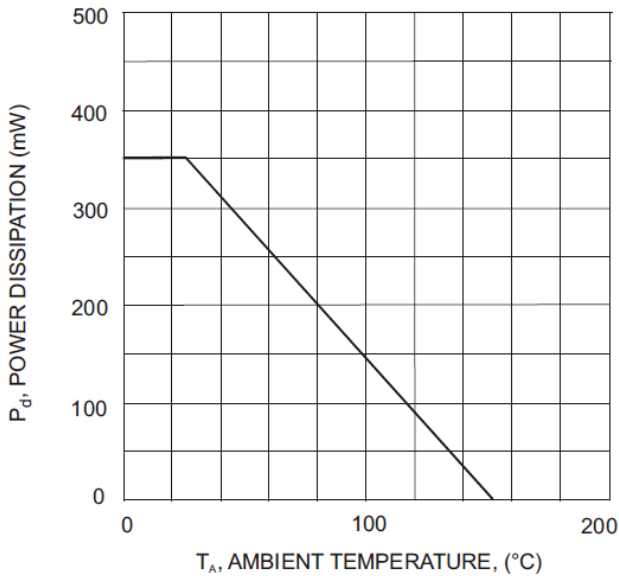


Figure 2. Typical Forward Characteristics, per element

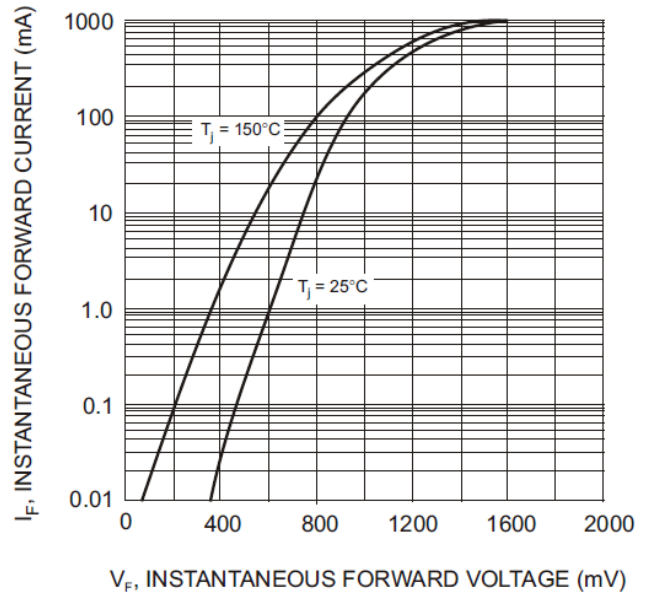


Figure 3. Typical Reverse Characteristics, per element

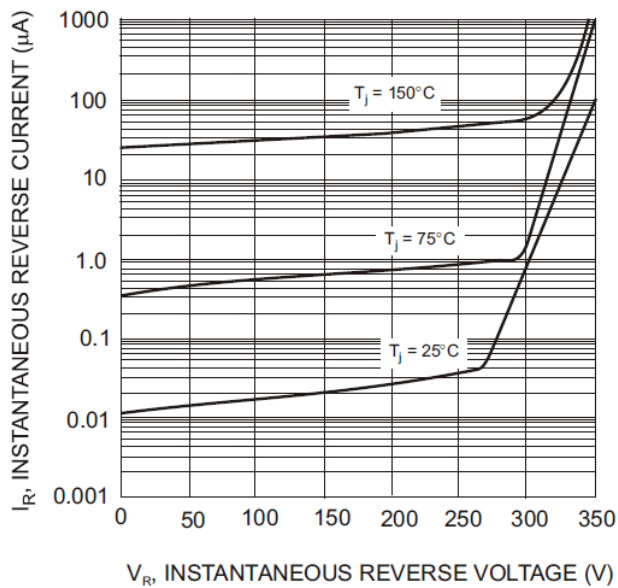
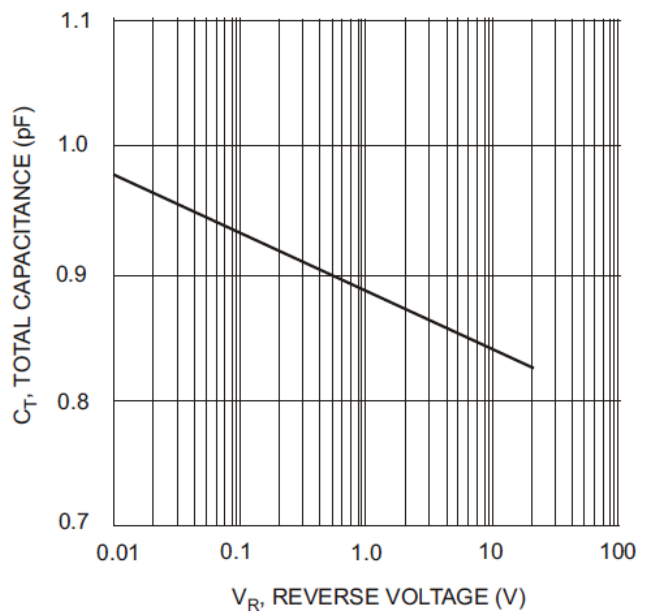


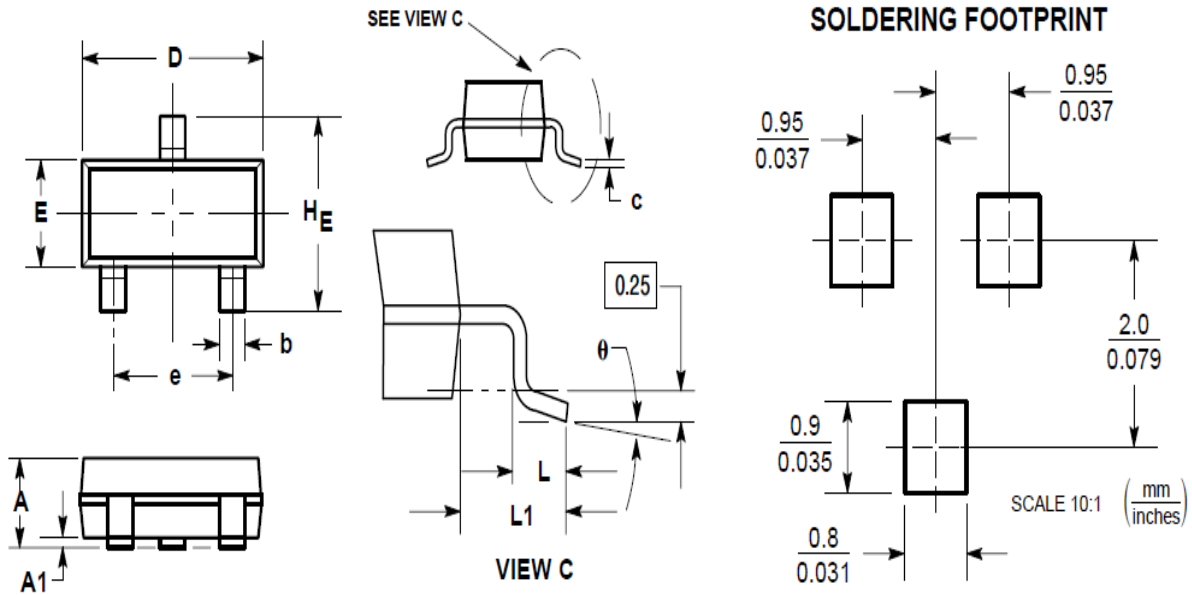
Figure 4. Typical Total Capacitance vs. Reverse Voltage, per element





PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.044	0.89	1.11
A1	0.001	0.004	0.01	0.10
b	0.015	0.020	0.37	0.50
c	0.003	0.007	0.09	0.18
D	0.110	0.120	2.80	3.04
E	0.047	0.055	1.20	1.40
e	0.070	0.081	1.78	2.04
L	0.004	0.012	0.10	0.30
L1	0.014	0.029	0.35	0.69
H _E	0.083	0.104	2.10	2.64



IMPORTANT NOTICE

AiT Components (AiT) reserves the right to make changes to any its product, specifications, to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

AiT Components' integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life support applications, devices or systems or other critical applications. Use of AiT products in such applications is understood to be fully at the risk of the customer. As used herein may involve potential risks of death, personal injury, or severe property, or environmental damage. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

AiT Components assumes no liability to customer product design or application support. AiT warrants the performance of its products of the specifications applicable at the time of sale.