



DESCRIPTION

The MBD3004S is available in SOT-23 package

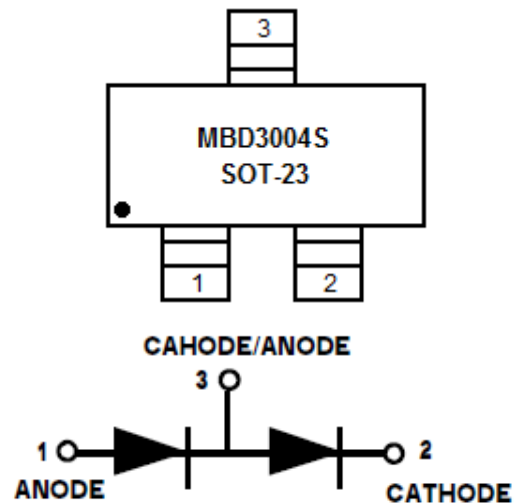
ORDERING INFORMATION

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

FEATURES

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

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

T_A=25°C unless otherwise specified

V _R RM, Repetitive Peak Reverse Voltage		350 V
V _R WM, 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

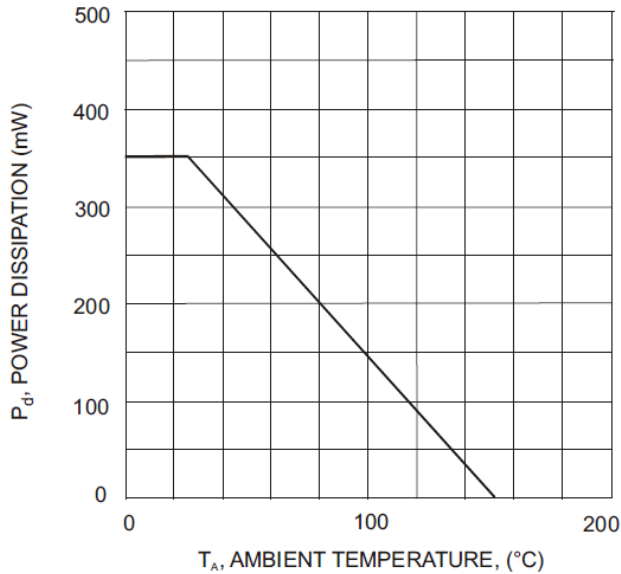


Figure 2. Typical Forward Characteristics, per element

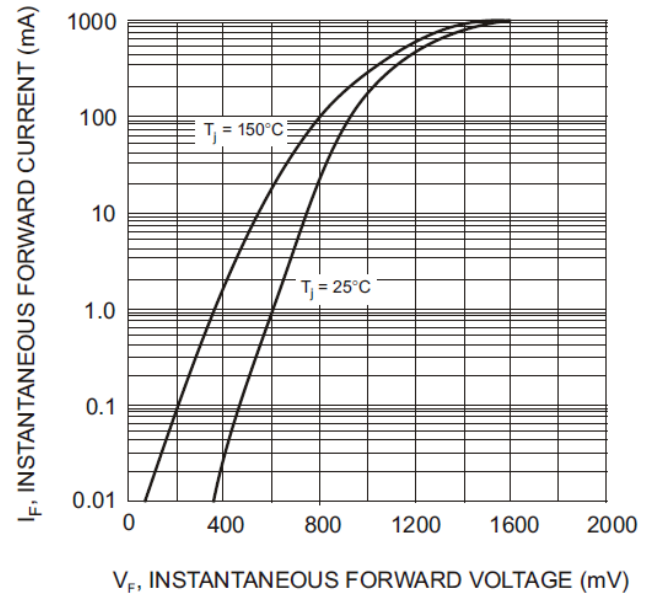


Figure 3. Typical Reverse Characteristics, per element

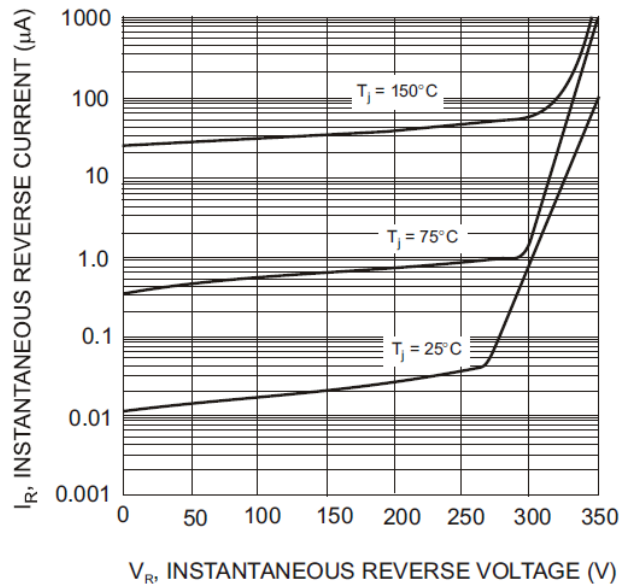
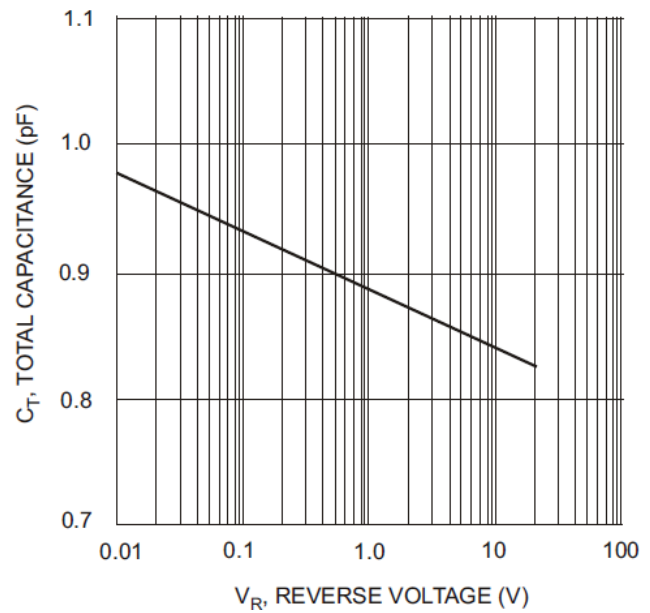


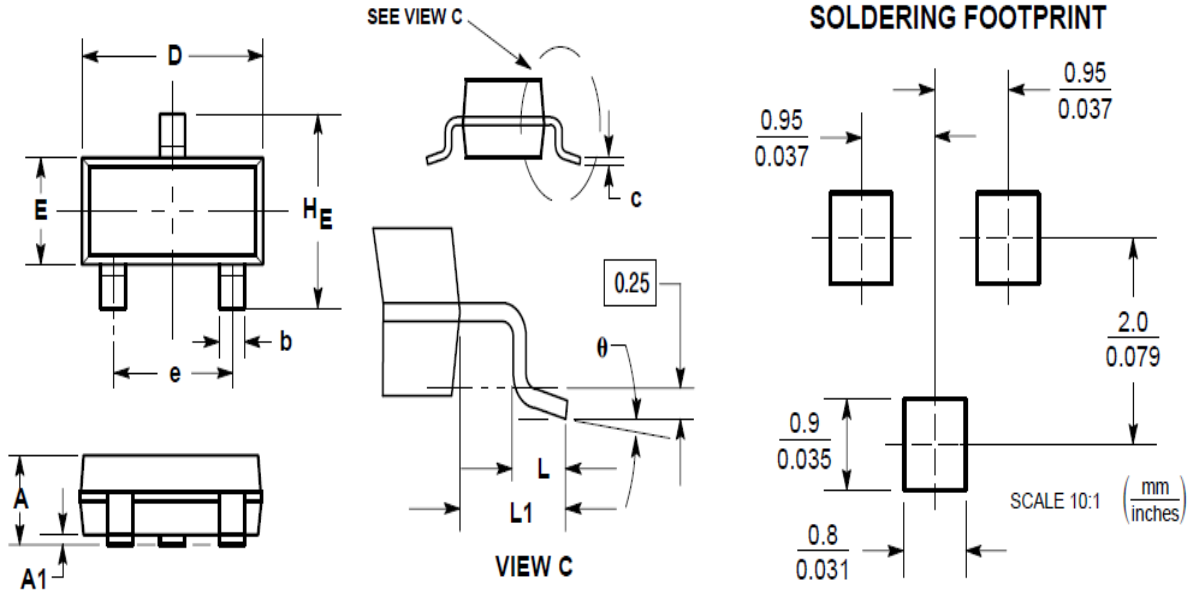
Figure 4. Typical Total Capacitance vs. Reverse Voltage, per element





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
HE	0.083	0.104	2.10	2.64



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