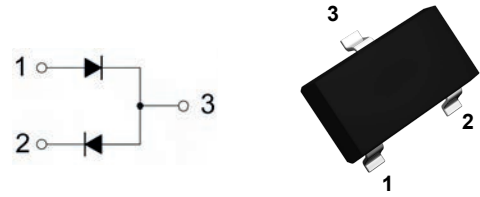


Features

- High switching speed: $t_{rr} \leq 4 \text{ ns}$
- Low leakage current
- Small SMD plastic package
- High stability and high reliability

Applications

- High-speed switching
- General-purpose switching



Schematic Diagram

SOT-23

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

Parameters	Symbol	Value	Unit
Reverse Voltage	V_R	100	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Power Dissipation	P_D	225	mW
Average Rectified Output Current ^{1,2}	I_O	200	mA
Non-Repetitive Peak Forward Current	I_{FM}	500	mA
Non-Repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$; $T_A=25^\circ\text{C}$	I_{FSM}	2	A
Operating Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$

Notes:

- Part mounted on FR-4 substrate with pad dimensions 1 inch $\times$ 1 inch, 2oz, copper, single-sided, PC board.
- Double diode loaded in parallel. For single diode or double diode loaded in series, the continuous forward current should be reduced by half.

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

Parameter	Symbol	Conditions	Min.	Max.	Unit
Reverse Voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	100	-	V
Reverse Leakage Current	I_R	$V_R=50\text{V}$	-	1	μA
		$V_R=100\text{V}$	-	3	
Forward Voltage	V_F	$I_F=1\text{mA}$	-	0.72	V
		$I_F=10\text{mA}$	-	0.82	
		$I_F=100\text{mA}$	-	1.1	
Reverse Recovery Time	T_{RR}	$I_F=I_R=10\text{mA}$, $R_L=100\Omega$, $I_{RR}=0.1 \times I_R$, $V_R=6\text{V}$	-	4	nS
Capacitance	C_T	$V_R=0\text{V}$, $f=1\text{MHZ}$	-	1.5	pF

Ratings and Characteristic Curves

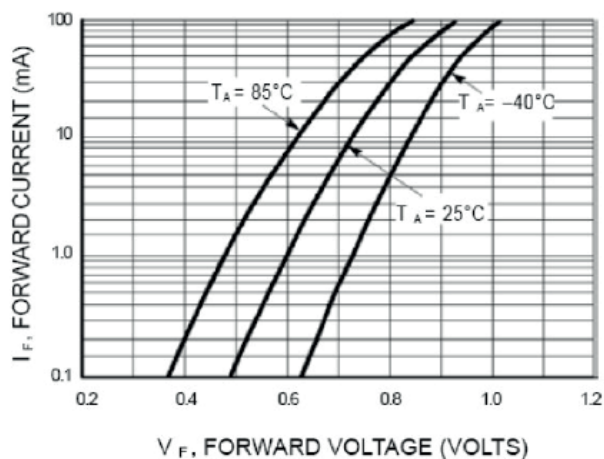


Figure 1. Typical Forward Characteristics

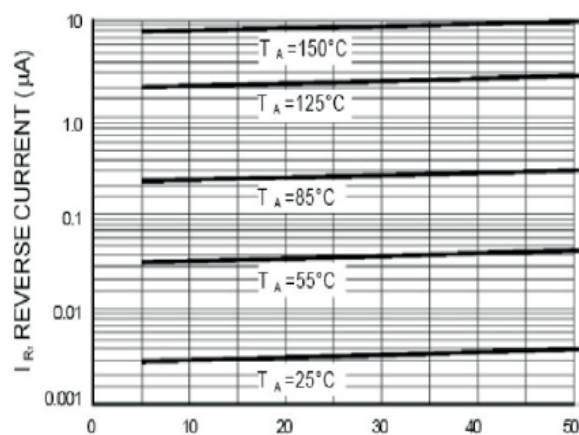


Figure 2. Typical Reverse Characteristics

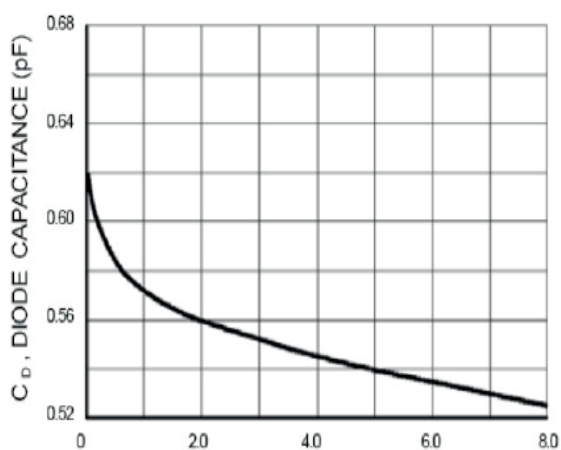
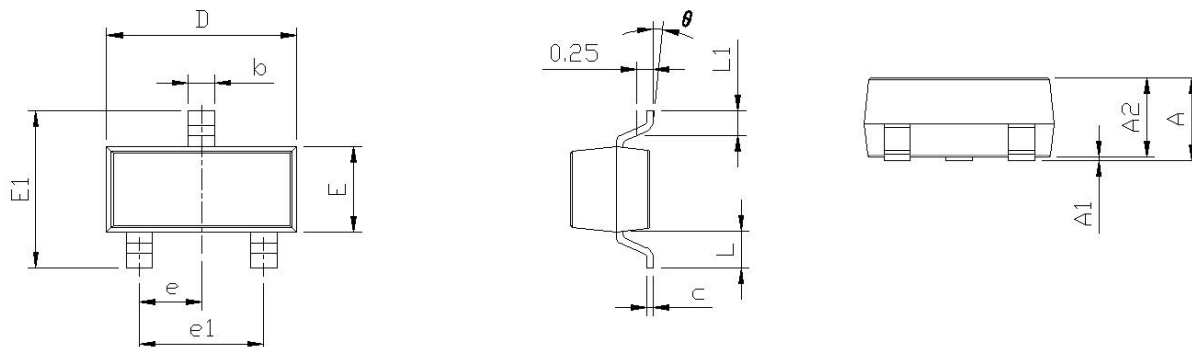


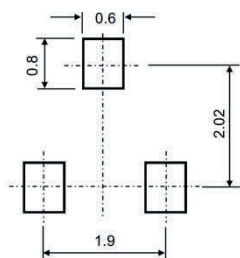
Figure 3. Typical Capacitance Characteristics

Package Outline Dimensions (SOT-23)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

Order Information

Device	Package	Marking	Packaging	SPQ
MMBD7000	SOT-23	M5C	Tape & Reel	3,000pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com