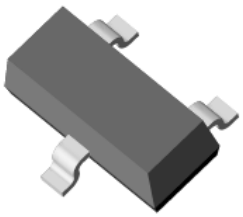
Schottky Barrier Rectifier

General Description

These Schottky barrier diodes are designed for high-speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conductions. Miniature surface mount package is excellent for hand-held and portable applications where space is limited.



SOT-23

Features and Benefits

- Low forward drop voltage and low leakage current
- Very low switching time
- Full lead (Pb)-free device and RoHS compliant device
- Available in “Green” device

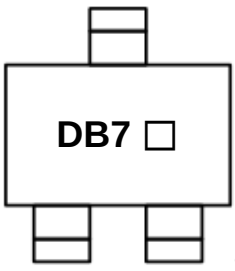
Applications

- General purpose and high speed switching
- Protection circuit and voltage clamping

Ordering Information

Part Number	Marking Code	Package	Packaging
SDB0740	DB7 □	SOT-23	Tape & Reel

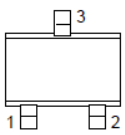
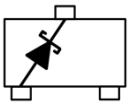
Marking Information



DB7 = Specific Device Code

□ = Year & Week Code Marking

Pinning Information

Pin	Description	Simplified Outline	Graphic Symbol
1	Anode		
2	Not Connected		
3	Cathode		

Absolute Maximum Ratings (T_{amb}=25℃, Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Maximum repetitive reverse voltage Maximum working peak reverse voltage Maximum DC blocking voltage	V_{RRM} V_{RWM} V_R	40	V
Average forward rectified current	$I_{F(AV)}$	0.75	A
Non-repetitive peak forward surge current(t=8.3ms)	I_{FSM}	5.5	A
Power dissipation [1]	P_D	350	mW

[1] Device mounted on FR-4 board with recommended pad layout.

Thermal Characteristics (T_{amb}=25℃, Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Thermal resistance, junction to ambient [1]	$R_{th(j-a)}$	350	°C/W
Operating junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55 ~ 150	°C

[1] Device mounted on FR-4 board with recommended pad layout.

Electrical Characteristics (T_{amb}=25℃, Unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward voltage drop [2]	$V_{F(1)}$	I_F=750mA	-	-	490	mV
Reverse leakage current [3]	$I_{R(1)}$	V_R=30V	-	-	100	μA
	$I_{R(2)}$	V_R=40V	-	-	250	μA
Total capacitance	C_T	V_R=0V, f=1MHz	-	230	-	pF
Reverse recovery time	t_{rr}	I_F= I_R=100mA, I_{rr}= 10mA	-	-	10	ns

[2] Pulse test: $t_p \leq 380\mu s$, Duty cycle≤2%

[3] Pulse test: $t_p \leq 5ms$, Duty cycle≤2%

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

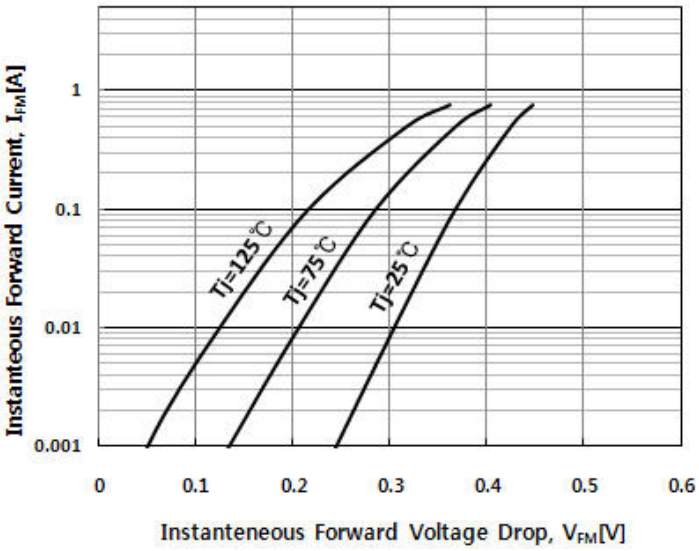


Fig. 2) Typical Reverse Characteristics

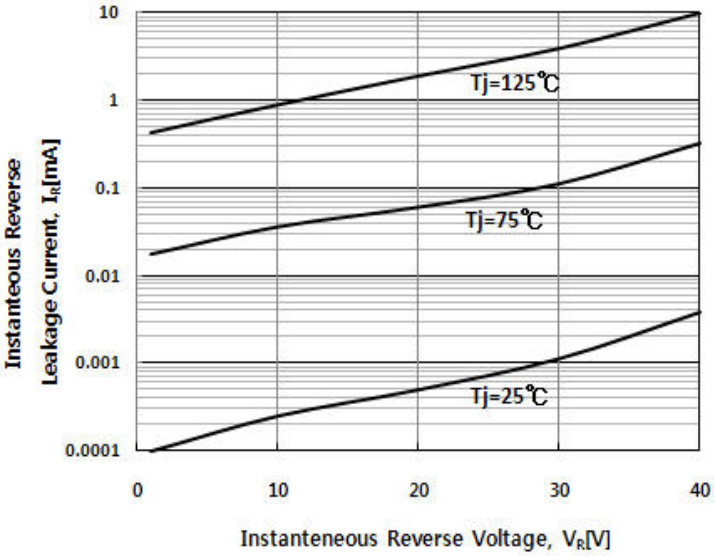
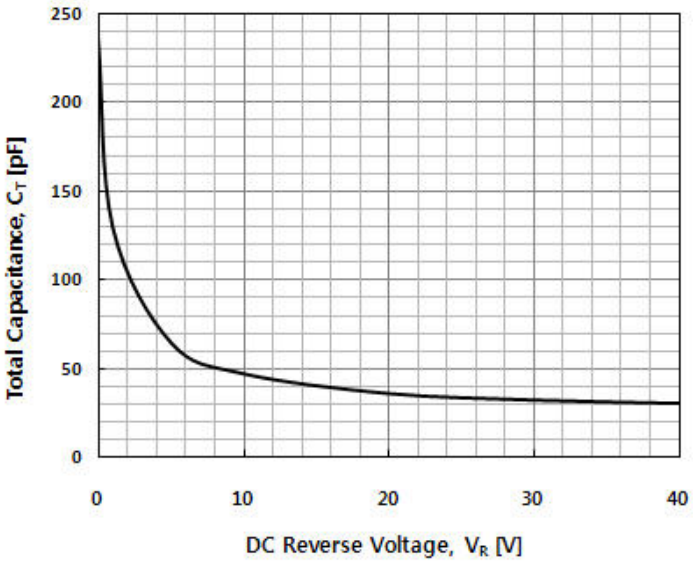
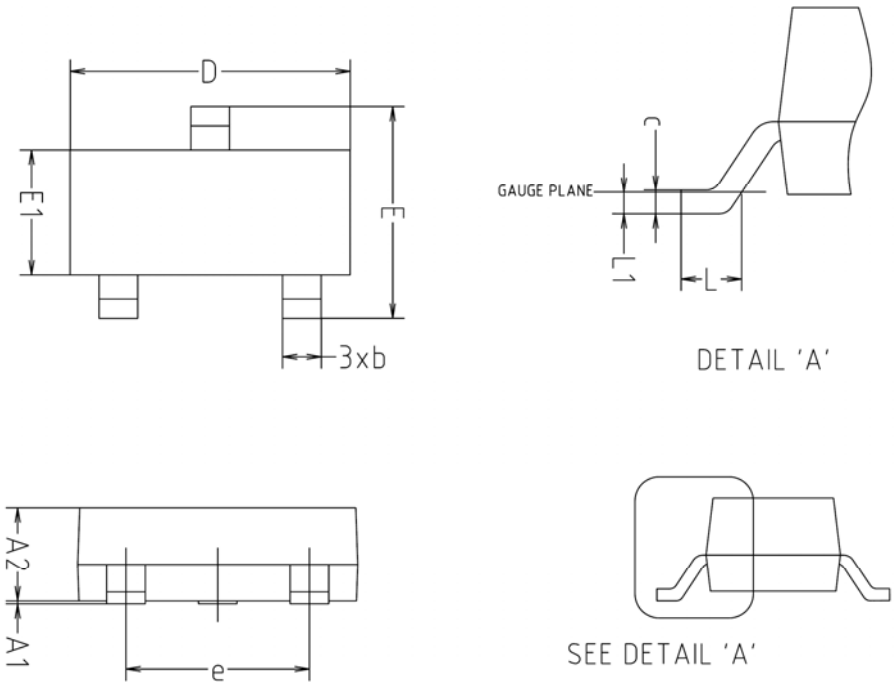


Fig. 3) Typical Junction Capacitance

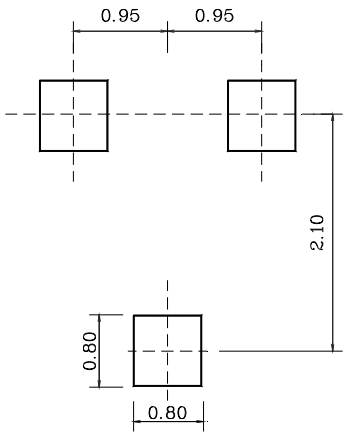


Package Outline Dimensions



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A1	0.00	-	0.10	
A2	0.82	-	1.02	
b	0.39	0.42	0.45	
c	0.09	0.12	0.15	
D	2.80	2.90	3.00	
E	2.20	2.40	2.60	
E1	1.20	1.30	1.40	
e	1.90BSC			
L	0.20	-	-	
L1	0.12BSC			

※ Recommend PCB solder land (Unit : mm)



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