General Purpose Schottky Barrier Diode

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

Applications

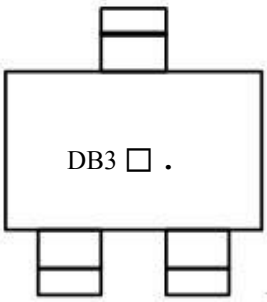
General purpose and high speed switching

Protection circuit and voltage clamping

Ordering Information

Part Number	Marking Code	Package	Packaging
KDB310WM	DB3 □ .	SOT-23	Tape & Reel

Marking Information

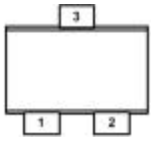
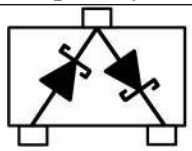


DB3 = Specific Device Code

□= Year & Week Code Marking

• =Da Lian

Pinning Information

Pin	Description	Simplified Outline	Graphic Symbol
1	Anode (Diode 1)		
2	Cathode (Diode 2)		
3	Cathode (Diode 1) Anode (Diode 1)		

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

Characteristic	Symbol	Ratings	Unit
Peak reverse voltage	V_{RM}	40	V
DC reverse voltage	V_R	30	V
Repetitive peak forward current	I_{FRM}	0.5	A
Forward current	I_F	0.2	A
Non-repetitive peak forward surge current(t=10ms)	I_{FSM}	2	A
Power dissipation [1)]	P_D	150	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)]	$R_{th(j-a)}$	833	℃/W
Operating junction temperature	T_j	150	℃
Storage temperature range	T_{stg}	-55~150	℃

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 [2)]	$V_{F(1)}$	I_F=10mA	-	-	0.4	V
	$V_{F(2)}$	I_F=30mA	-	-	0.5	V
Reverse leakage current [3)]	I_R	V_R=30V	-	-	1	μA
Total capacitance	C_T	V_R=1V, f=1MHz	-	-	10	pF
Reverse recovery time	t_{rr}	I_F= I_R=10mA, $I_{R(REC)}$= 1mA	-	-	5	ns

2) Pulse test: $t_P \leq 380\mu s$, Duty cycle≤2%

3) Pulse test: $t_P \leq 5$ ms , Duty cycle≤2%

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

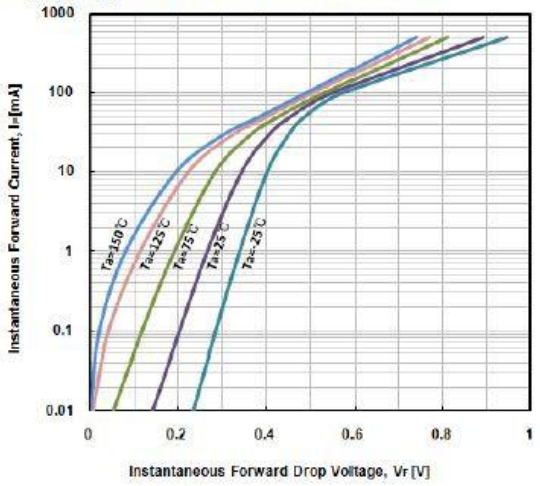


Fig. 2) Typical Reverse Characteristics

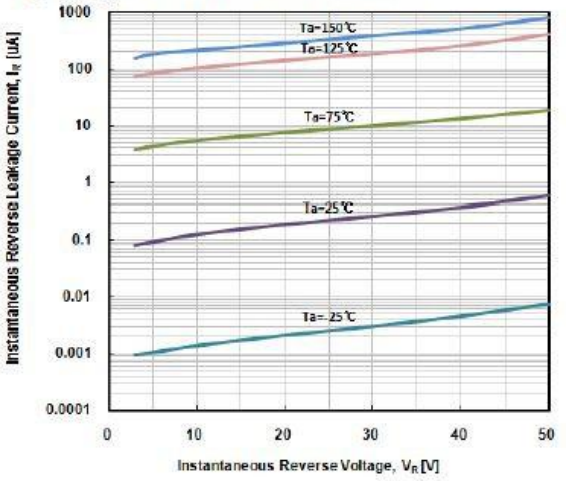


Fig. 3) Typical Total Capacitance Characteristics

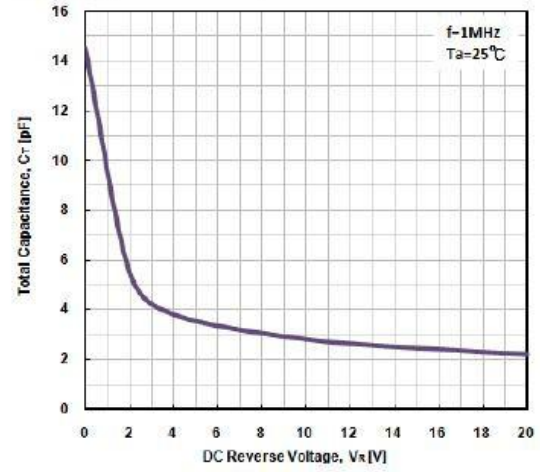
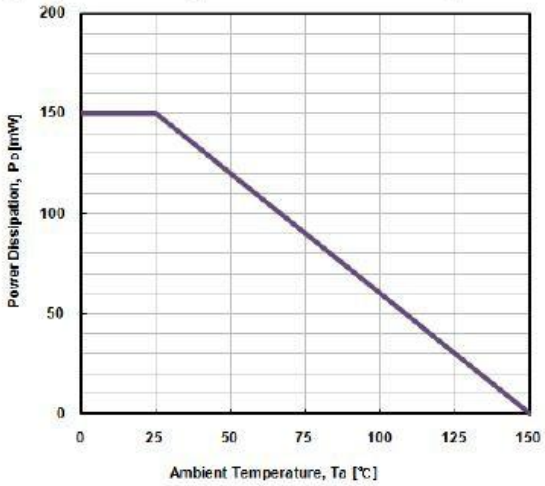
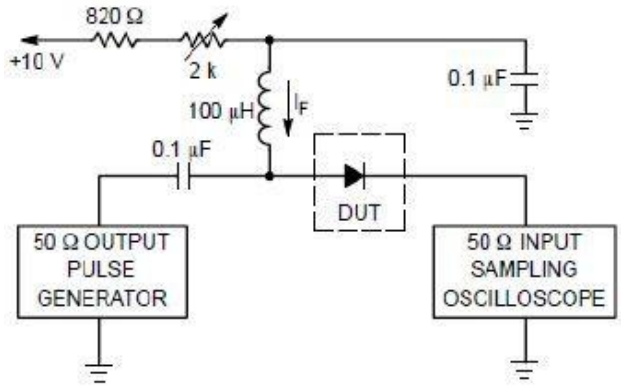
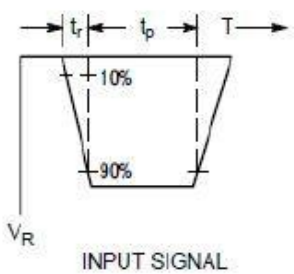
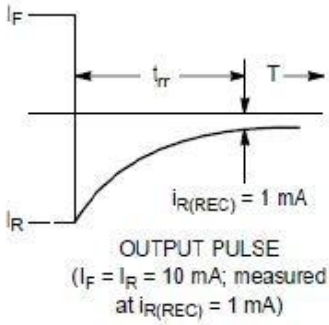


Fig. 4) Power dissipation vs. Ambient temperature

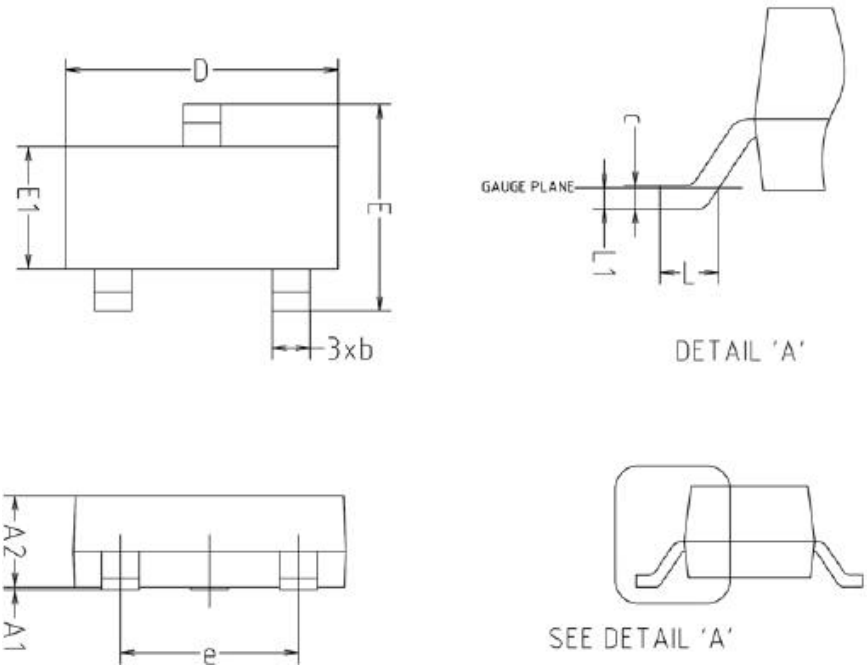






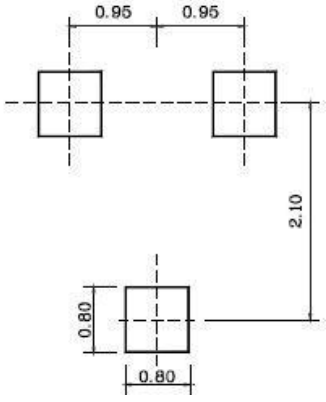


Package Outline Dimensions



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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