

Schottky Barrier Rectifier

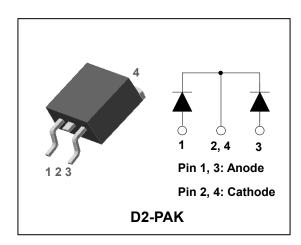
HIGH VOLTAGE SCHOTTKY RECTIFIER

Features

- Low forward voltage drop and leakage current
- Low power loss and High efficiency
- Guard-ring for overvoltage protection
- Dual common cathode rectifier
- Full lead (Pb)-free and RoHS compliant device

Applications

- Power supply Output rectification
- High efficiency SMPS
- Free-wheeling diode
- Reverse battery protection
- · DC to DC systems



Product Characteristics

I _{F(AV)}	2 X 10A
V_{RRM}	80V
V _{FM} at 125℃	0.65V (Typ.)
I _{FSM}	150A

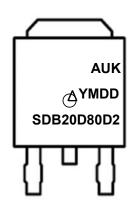
Description

The SDB20D80D2 has two schottky barriers arranged in a common cathode configuration. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.

Ordering Information

Device	Marking Code	Package	Packaging
SDB20D80D2	SDB20D80D2	D2-PAK	Tape & Reel

Marking Information



AUK = Manufacture Logo

 Δ = Control Code of Manufacture

YMDD = Date Code Marking

-. Y = Year Code

-. M = Monthly Code

-. DD = Daily Code

SDB20D80D2 = Specific Device Code

Absolute Maximum Ratings (Limiting Values, Per diode)

Characteristic		Symbol	Value	Unit	
Maximum repetitive reverse voltage Maximum working peak reverse voltage Maximum DC blocking voltage		V _{RRM} V _{RWM} V _R	80	V	
Maximum average forward rectified current	per diode		10	^	
	total device	I _{F(AV)}	20	Α	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode		I _{FSM}	150	А	
Storage temperature range		T _{stg}	-45℃ to +150℃	${\mathbb C}$	
Maximum operating junction temperature		T _j	150	$^{\circ}$	

Thermal Characteristics

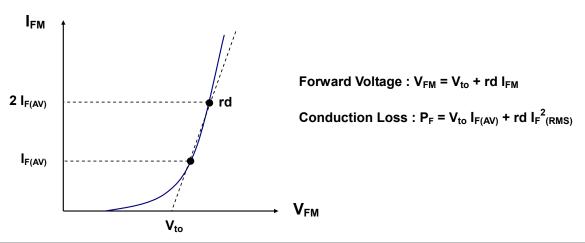
Characteristic		Symbol	Value	Unit
Maximum thermal resistance junction to case	per diode	D	3.0	°C/W
	total device	$R_{th(j-c)}$	2.8	

Electrical Characteristics (Per Diode)

Characteristic	Symbol	Test Condition		Min.	Тур.	Max.	Unit
Peak forward voltage drop	V _{FM} ⁽¹⁾	I _{FM} = 10A	T _j =25℃	-	0.70	0.80	V
			T _j =125℃	-	0.65	0.72	V
Reverse leakage current	I _{RM} ⁽¹⁾	$V_R = V_{RRM}$	T _j =25℃	-	-	0.6	mA
			T _j =125℃	-	-	100	mA
Junction capacitance	C _j	$V_R = 1V_{DC}$, $f=1MHz$		-	550	-	pF

Note : (1) Pulse test : $t_P\!\leq\!380~\mu\!\text{s},\,Duty~cycle}\!\leq\!2\%$

To evaluate the conduction losses use the following equation: $P_F = 0.36 \text{ x } I_{F(AV)} + 0.0335 I_{F(RMS)}^2$



Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics (Per diode)

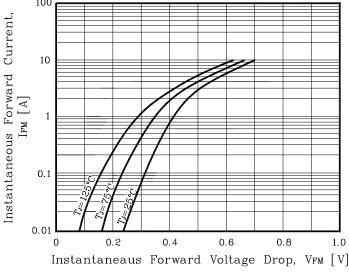
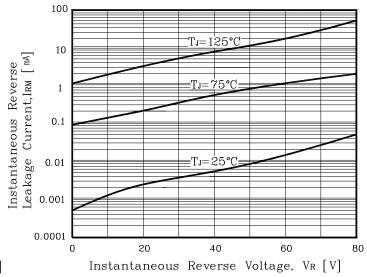


Fig. 2) Typical Reverse Characteristics (Per diode)



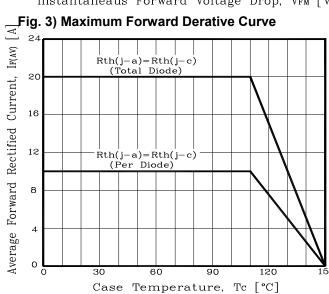


Fig. 4) Forward Power Dissipation (Per diode)

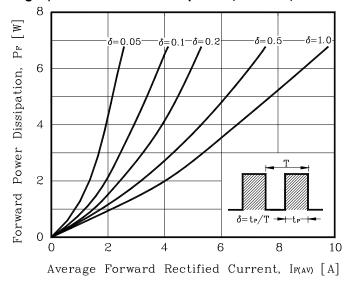


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current (Per diode)

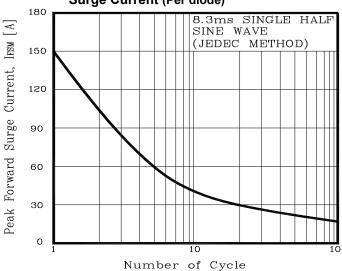
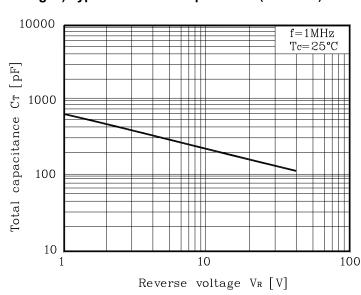
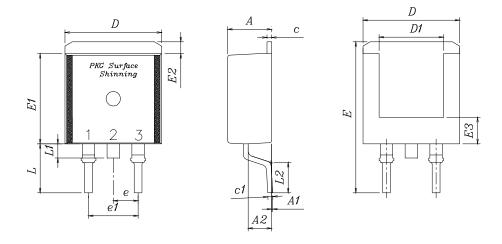


Fig. 6) Typical Junction Capacitance (Per diode)



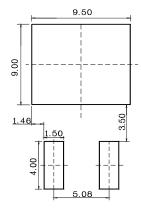
3 KSD-D6S007-001

Package Outline Dimension



	MILLIMETERS				
SYMB0L	MINIMUM			NOTE	
А	4.35	4.50	4.65		
A1	_	_	0.15		
A2	2.20	2.40	2.60		
С	0.40	0.50	0.60		
c1	0.40	0.50	0.60		
D	9.80	10.00	10.20		
D1	6.40	6.60	6.80		
Е	15.00	15.40	15.80		
E1	9.05	9.20	9.35		
E2	1.00	1.20	1.40		
E3	2.50	2.70	2.90		
е	2.34	2.54	2.74		
e1	4.88	5.08	5.28		
L	4.60	5.00	5.40		
L1	1.40	1.45	1.50		
L2	2.50	_	_		

* Recommend PCB solder land [Unit: mm]



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