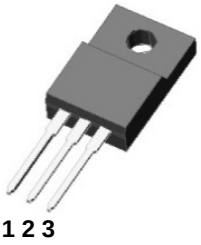
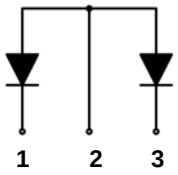
DUAL COMMON ANODE SCHOTTKY RECTIFIER

Features

- Low forward voltage drop and leakage current
- Low power loss and High efficiency
- High surge capability
- Dual common anode rectifier
- Full lead(Pb)-free component and RoHS compliant device





Pin 1, 3 : Cathode

Pin 2: Anode

TO-220F-3L

Applications

- Power supply - Output rectification
- Converter
- Free-wheeling diode
- Reverse battery protection
- Power inverters

Product Characteristics

$I_{F(AV)}$	2 x 10A
V_{RRM}	100V
V_{FM} at 125℃	0.72V
I_{FSM}	120A

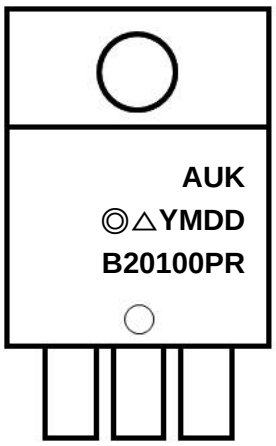
Description

The SDB20100PR has two schottky barriers arranged in a common anode configuration. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.

Ordering Information

Device	Marking Code	Package	Packaging
SDB20100PR	B20100PR	TO-220F-3L	Tube

Marking Information



AUK = Manufacture Logo

◎ = Management Code

Δ = Machine Code

YMDD = Date Code Marking

-. Y = Year Code

-. M = Monthly Code

-. D = Daily Code

B20100PR = Specific Device Code

Absolute Maximum Ratings (Limiting Values)

Characteristic		Symbol	Value	Unit
Maximum repetitive reverse voltage Maximum working peak reverse voltage Maximum DC blocking voltage		V_{RRM} V_{RWM} V_R	100	V
Maximum average forward rectified current	per diode	$I_{F(AV)}$	10	A
	total device		20	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode		I_{FSM}	120	A
Storage temperature range		T_{stg}	-45℃ to +150℃	℃
Maximum operating junction temperature		T_J	150	℃

Thermal Characteristics

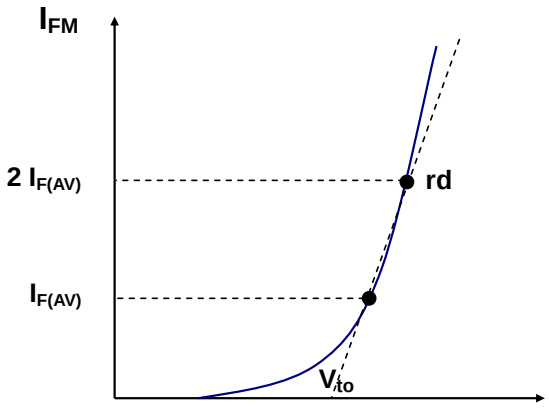
Characteristic		Symbol	Value	Unit
Maximum thermal resistance junction to case	per diode	$R_{th(j-c)}$	4.0	℃/W
	total device		3.6	

Electrical Characteristics

Characteristic	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Peak forward voltage drop	V_{FM} (1)	I_{FM} = 10A	T_j=25℃	-	-	0.85	V
			T_j=125℃	-	-	0.72	V
Reverse leakage current	I_{RM} (1)	$V_R = V_{RRM}$	T_j=25℃	-	-	20	uA
			T_j=125℃	-	-	20	mA
Junction capacitance	C_j	V_R = 10V_{DC}, f=1MHz		-	150	-	pF

Note : (1) Pulse test : $t_P \leq 380\ \mu s$, Duty cycle $\leq 2\%$

To evaluate the conduction losses use the following equation: $P_F = 0.62\ I_{F(AV)} + 0.042\ I_F{}^2{}_{(RMS)}$



Forward Voltage : $V_{FM} = V_{to} + rd\ I_{FM}$

Conduction Loss : $P_F = V_{to}\ I_{F(AV)} + rd\ I_F{}^2{}_{(RMS)}$

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics (Per Diode)

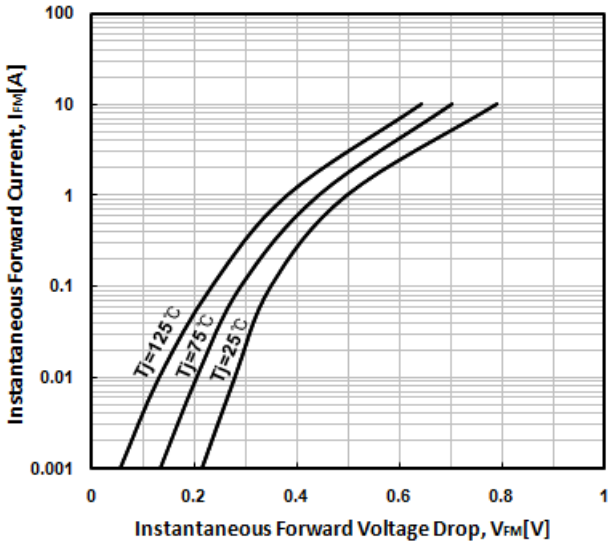


Fig. 2) Typical Reverse Characteristics (Per Diode)

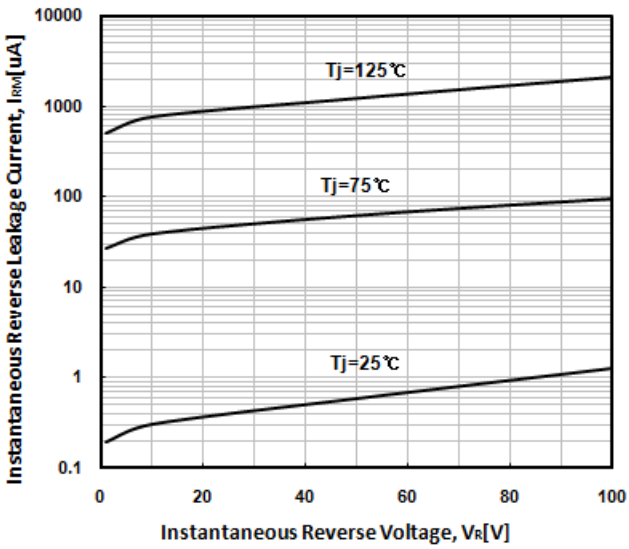


Fig. 3) Maximum Forward Derative Curve

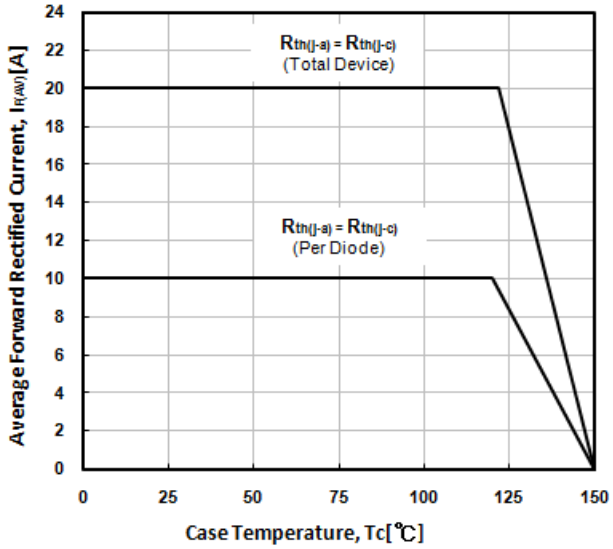


Fig. 4) Forward Power Dissipation (Per Diode)

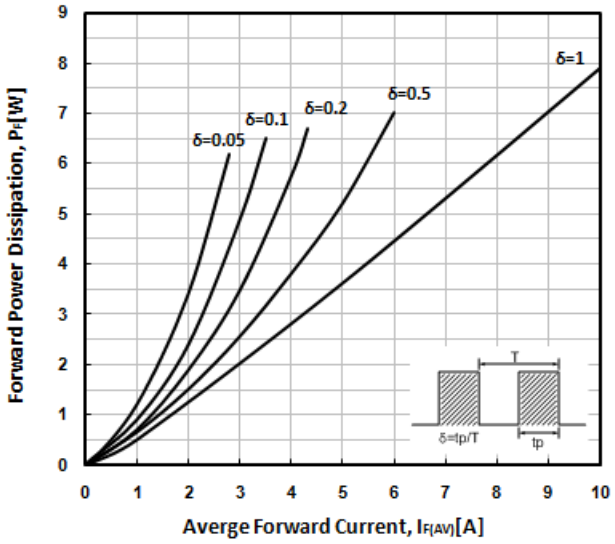


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current (Per Diode)

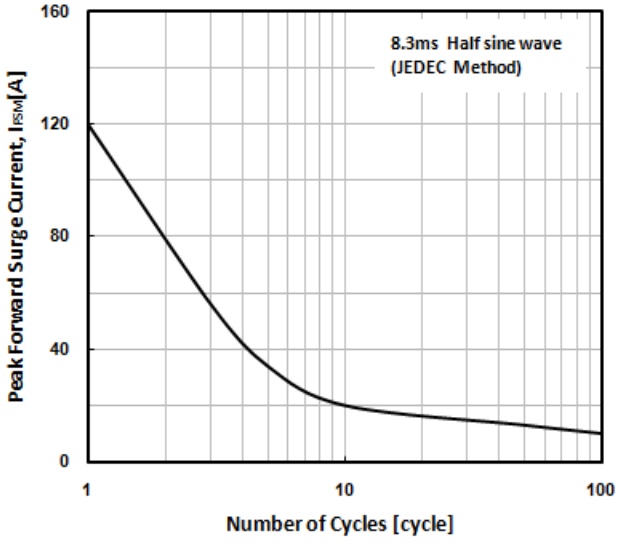
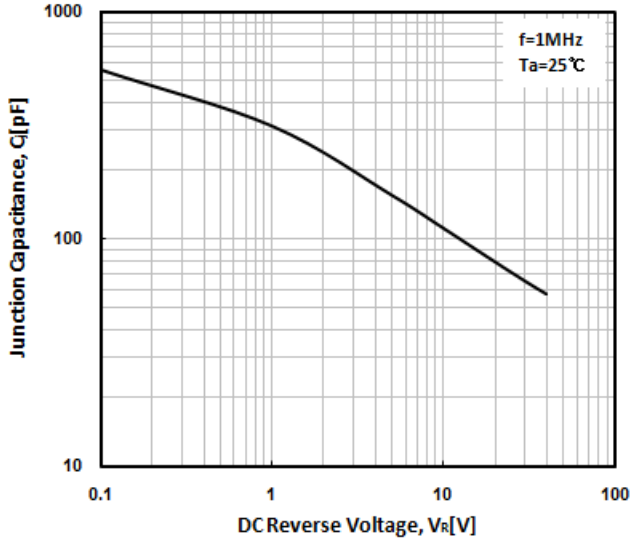
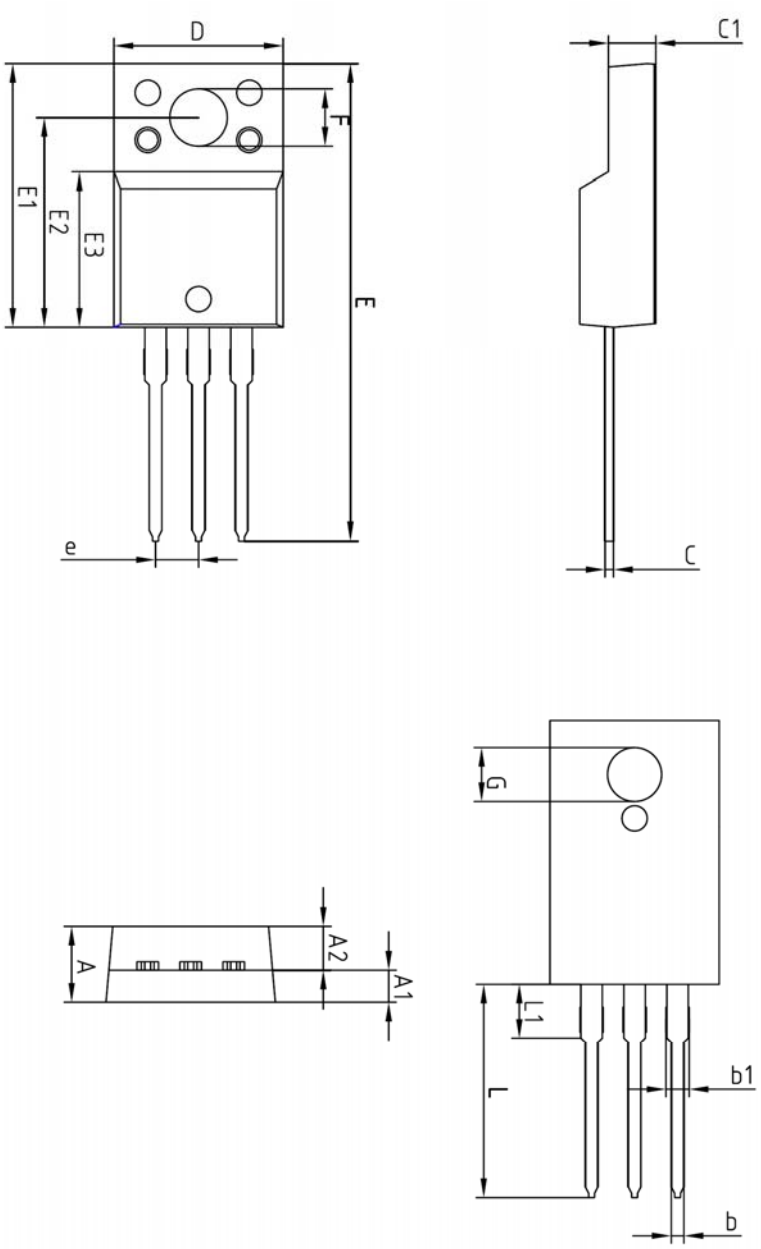


Fig. 6) Typical Junction Capacitance (Per Diode)



Package Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	–	–	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
b	0.65	0.75	0.85	
b1	1.07	1.27	1.47	
C	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
E	28.00	–	28.60	
E1	15.50	15.60	15.70	
E2	12.30	12.40	12.50	
E3	9.15	9.20	9.25	
F	3.30	3.40	3.50	
G	3.10	3.20	3.30	
e	2.54 BSC			
L	12.40	–	13.00	
L1	3.46 BSC			

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