

## DUAL COMMON CATHODE SCHOTTKY RECTIFIER

### Features

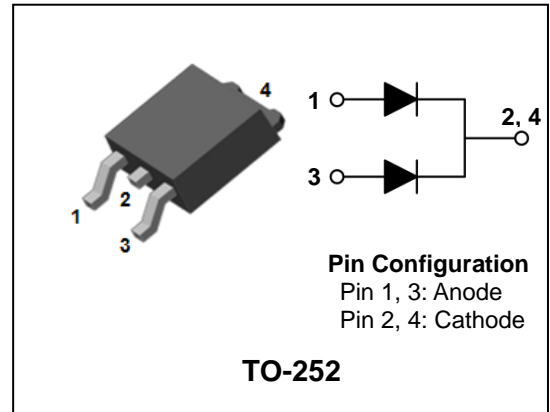
- Low forward voltage drop and leakage current
- Low power loss and High efficiency
- High surge capability
- Dual common cathode rectifier
- “Green” device and RoHS compliant device

### Applications

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

### Description

The SDB1090DI 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.



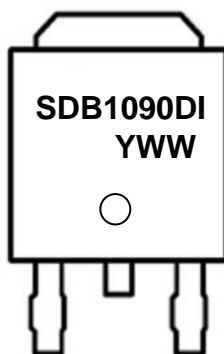
### Product Characteristics

$I_{F(AV)}$	2 X 5A
$V_{RRM}$	90V
$V_{FM}$ at 125°C	0.65V
$I_{FSM}$	60A

### Ordering Information

Device	Marking Code	Package	Packaging
SDB1090DI	SDB1090DI	TO-252	Tape & Reel

### Marking Information



SDB1090DI = Specific Device Code  
 YWW = Year & Week Code Marking  
 -. Y = Year Code  
 -. WW = Week Code

## Absolute Maximum Ratings (Limiting Values)

Characteristic		Symbol	Value	Unit
Maximum repetitive reverse voltage Maximum working peak reverse voltage Maximum DC blocking voltage		$V_{RRM}$ $V_{RWM}$ $V_R$	90	V
Maximum average forward rectified current	per diode	$I_{F(AV)}$	5	A
	total device		10	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode		$I_{FSM}$	60	A
Storage temperature range		$T_{stg}$	-45°C to +150°C	°C
Maximum operating junction temperature		$T_j$	150	°C

## Thermal Characteristics

Characteristic		Symbol	Value	Unit
Maximum thermal resistance junction to case	per diode	$R_{th(j-c)}$	6.0	°C/W
	total device		5.6	

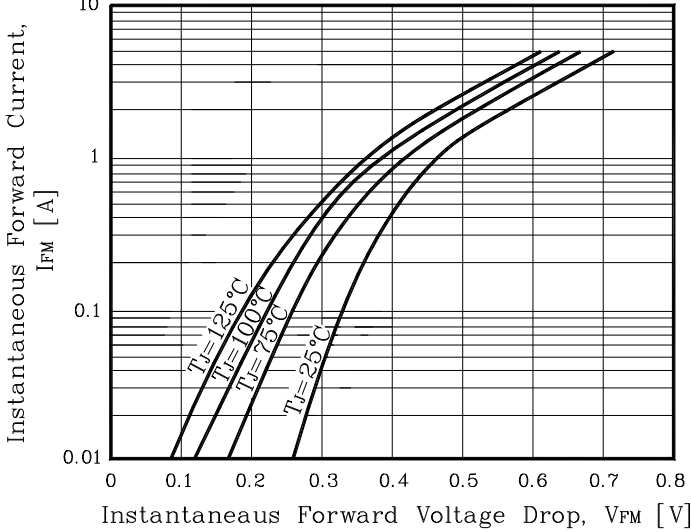
## Electrical Characteristics (Per Diode)

Characteristic	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Peak forward voltage drop	$V_{FM}^{(1)}$	$I_{FM} = 3A$	$T_j = 25^\circ C$	-	-	0.68	V
			$T_j = 125^\circ C$	-	-	0.60	V
		$I_{FM} = 5A$	$T_j = 25^\circ C$	-	-	0.75	V
			$T_j = 125^\circ C$	-	-	0.65	V
Reverse leakage current	$I_{RM}^{(1)}$	$V_R = V_{RRM}$	$T_j = 25^\circ C$	-	-	0.15	mA
			$T_j = 125^\circ C$	-	-	50	mA
Junction capacitance	$C_j$	$V_R = 5V_{DC}, f = 1MHz$		-	-	420	pF

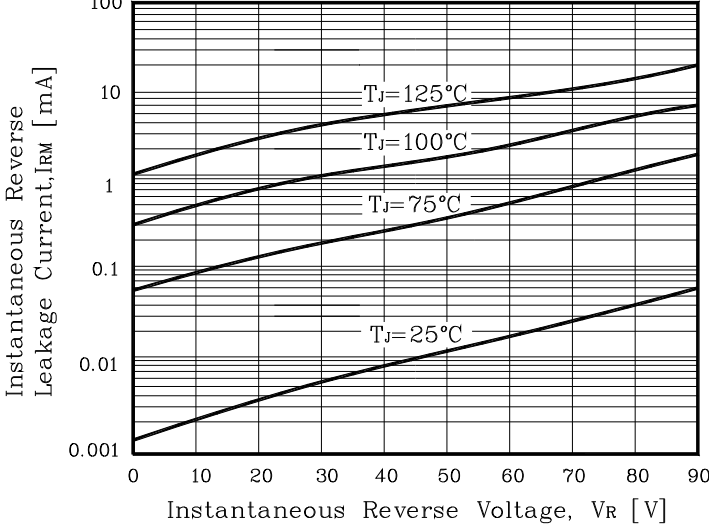
**Note :** (1) Pulse test :  $t_p \leq 380 \mu s$ , Duty cycle  $\leq 2\%$

**Rating and Characteristic Curves**

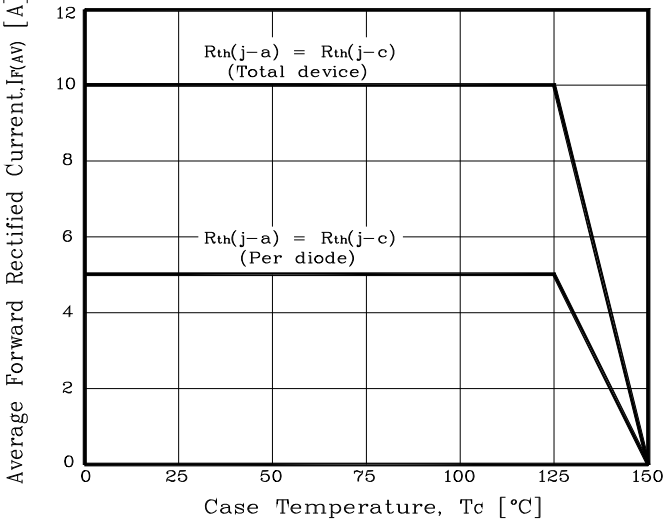
**Fig. 1) Typical Forward Characteristics (Per diode)**



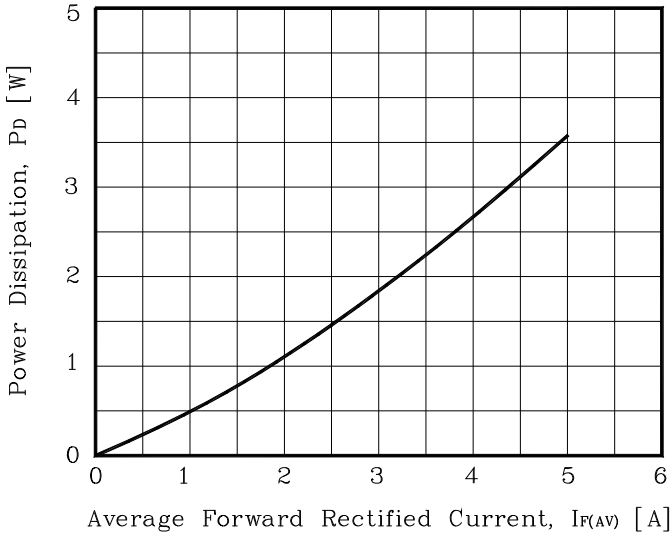
**Fig. 2) Typical Reverse Characteristics (Per diode)**



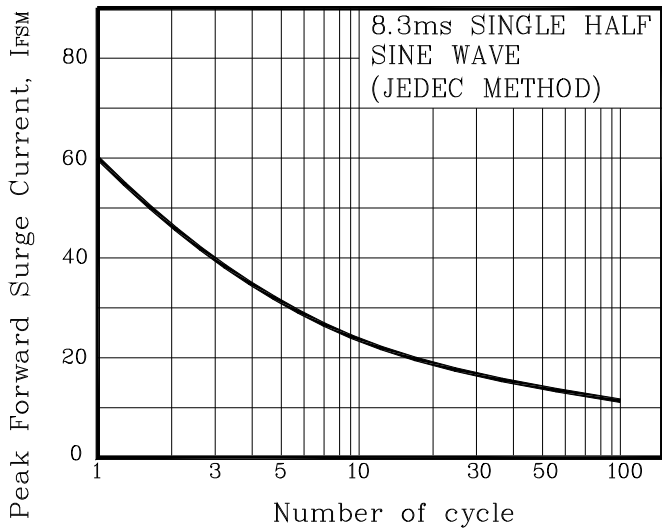
**Fig. 3) Maximum Forward Derivative Curve**



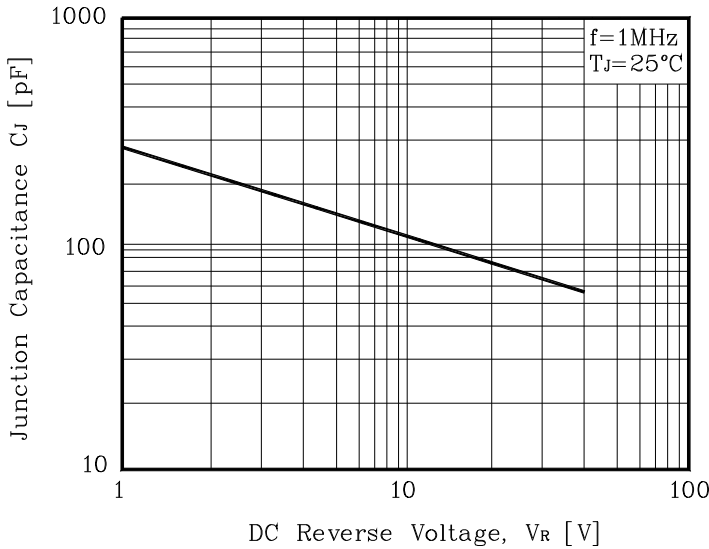
**Fig. 4) Forward Power Dissipation (Per diode)**



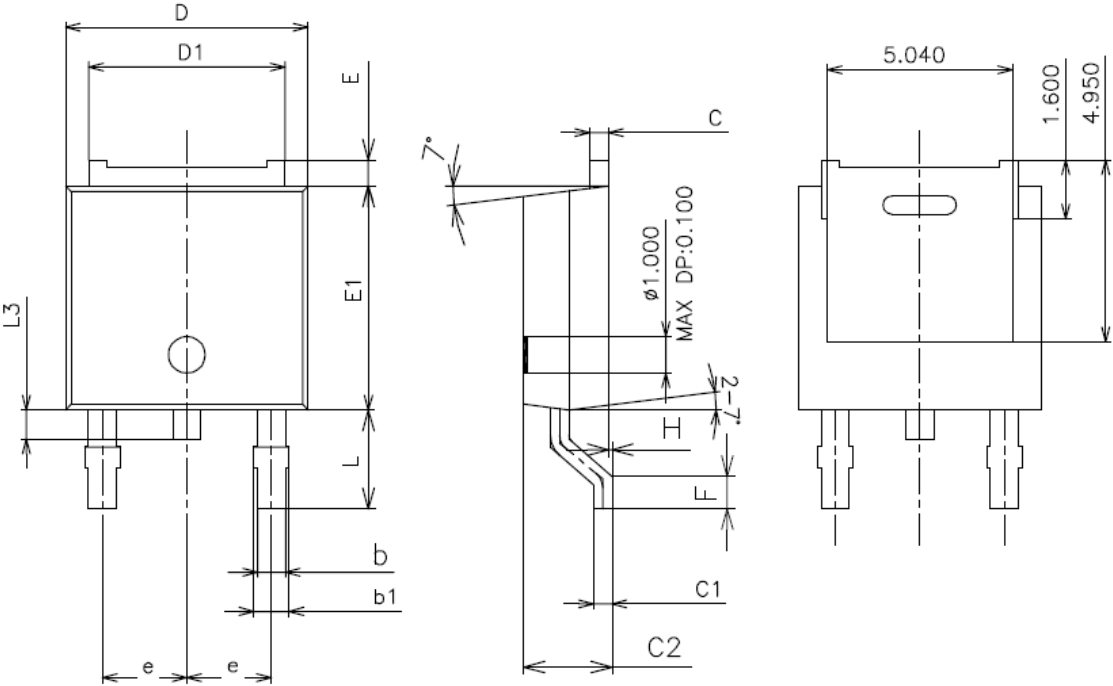
**Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current (Per diode)**



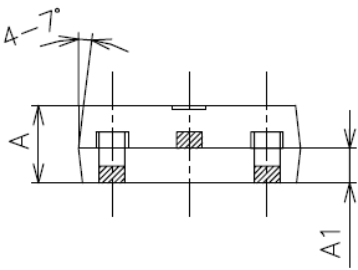
**Fig. 6) Typical Junction Capacitance (Per diode)**



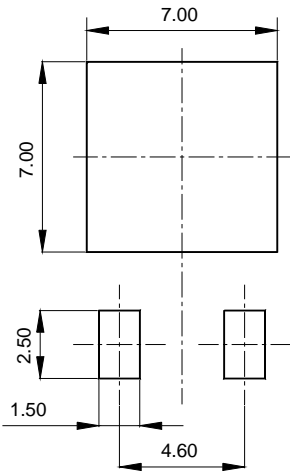
Package Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
D	6.40	6.60	6.80	
D1	5.14	5.34	5.54	
E	0.50	0.70	0.90	
E1	5.90	6.10	6.30	
A	2.20	2.30	2.40	
A1	0.87	1.07	1.27	
C	0.40	0.50	0.60	
C1	0.40	0.50	0.60	
C2	2.10	2.30	2.50	
L	2.50	2.70	2.90	
L3	0.60	0.80	1.00	
b	0.66	0.76	0.86	
b1	0.96 MAX			
e	2.10	2.30	2.50	
F	0.80 Min			
H	0	-	0.100	



※ Recommended Land Pattern (unit: mm)



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