

**$V_{RSM} = 100\text{ V}$ ,  $I_{F(AV)} = 10\text{ A}$**   
**Schottky Diode**  
**SPEN-210A**

**Description**

The SPEN-210A is a 100 V, 10 A, Schottky diode that has the improved characteristics of  $V_F$  and  $I_R$ . These characteristics realize the improvement of power supply efficiency and the high frequency system.

**Features**

- $V_{RM}$ ----- 100 V
- $I_{F(AV)}$ ----- 10 A
- $V_F$  ( $I_F = 5.0\text{ A}$ )-----0.85 V typ
- RoHS Compliant

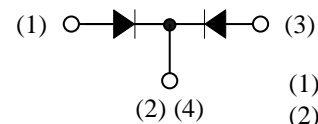
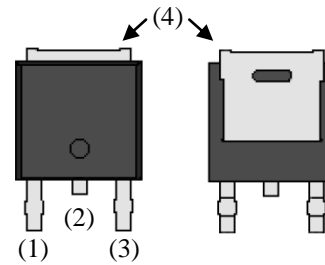
**Application**

The high speed switching applications as follows:

- DC-DC Converter
- Adapter

**Package**

TO252



- (1) Anode
- (2) Cathode
- (3) Anode
- (4) Cathode

Not to scale

## SPEN-210A

### Absolute Maximum Ratings

Unless otherwise specified,  $T_A = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Rating	Unit	Remarks
Peak Repetitive Reverse Voltage <sup>(1)</sup>	$V_{RSM}$	100	V	
Repetitive Reverse Voltage <sup>(1)</sup>	$V_{RM}$	100	V	
Average Forward Current	$I_{F(AV)}$	10	A	See Figure 1 and Figure 2
Surge Forward Current <sup>(1)</sup>	$I_{FSM}$	100	A	Half cycle sine wave, positive side, 10 ms, one shot
$I^2t$ Limiting Value <sup>(1)</sup>	$I^2t$	50	$A^2s$	$1\text{ ms} \leq t \leq 10\text{ ms}$
Junction Temperature	$T_J$	-40 to 150	$^\circ\text{C}$	
Storage Temperature	$T_{STG}$	-40 to 150	$^\circ\text{C}$	

### Electrical Characteristics

Unless otherwise specified,  $T_A = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	Remarks
Forward Voltage Drop <sup>(1)</sup>	$V_F$	$I_F = 5.0\text{ A}$	—	—	0.85	V	
Reverse Leakage Current <sup>(1)</sup>	$I_R$	$V_R = V_{RM}$	—	—	100	$\mu\text{A}$	
Reverse Leakage Current Under High Temperature <sup>(1)</sup>	$H \cdot I_R$	$V_R = V_{RM}, T_J = 150\text{ }^\circ\text{C}$	—	—	50	mA	
Thermal Resistance	$R_{th(J-C)}$	Between junction and case	—	—	5.0	$^\circ\text{C/W}$	

<sup>(1)</sup> The rating of one chip.

Rating and Characteristics Curves

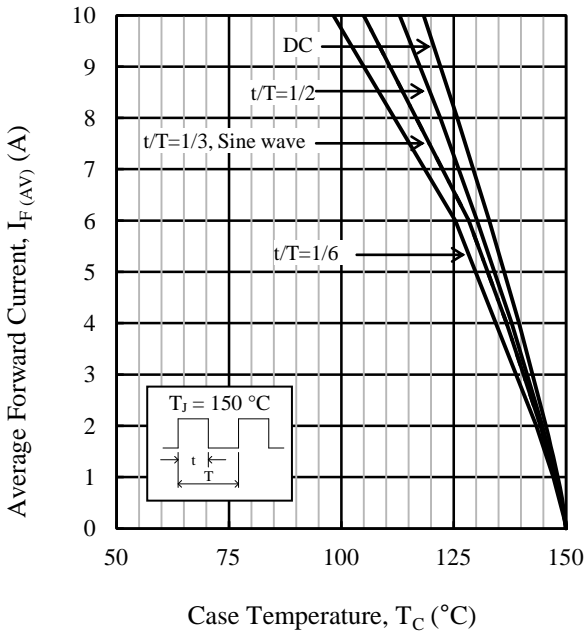


Figure 1.  $I_{F(AV)}$  vs. Case Temperature Curves  
 $V_R = 0\text{ V}$

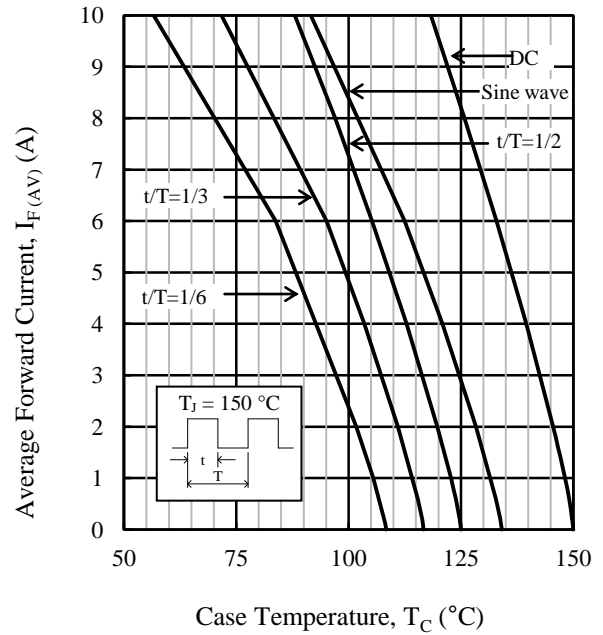


Figure 2.  $I_{F(AV)}$  vs. Case Temperature Curves  
 $V_R = 100\text{ V}$

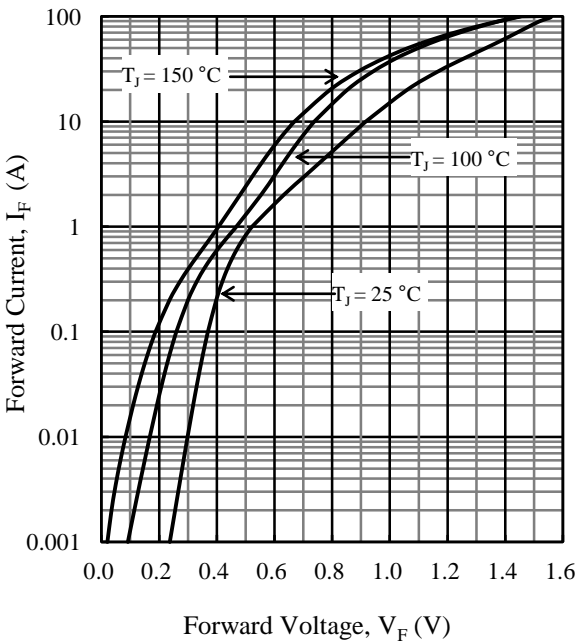


Figure 3.  $I_F - V_F$  Typical Characteristics

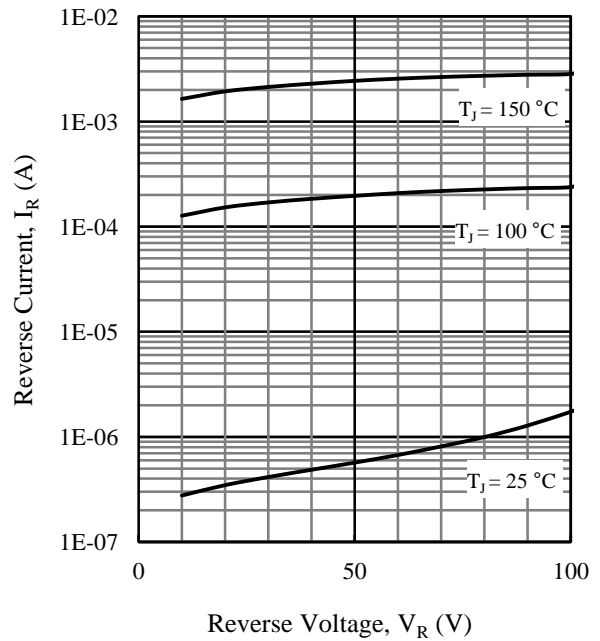
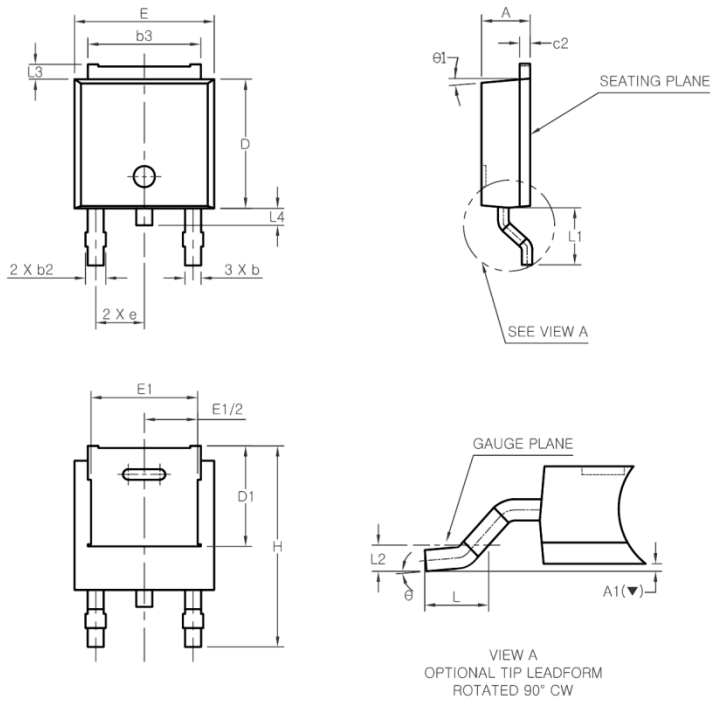


Figure 4.  $I_R - V_R$  Typical Characteristics

# SPEN-210A

## Physical Dimensions

- TO252



SYMBOL	MIN	NOM	MAX
A	2.20	2.30	2.40
A1 (▼)	0.00	-	0.127
b	0.66	0.76	0.86
b2	-	-	0.96
b3	5.04	5.34	5.64
c2	0.40	0.50	0.60
D	5.90	6.10	6.30
D1	(4.75)		
E	6.40	6.60	6.80
E1	(5.04)		
e	2.30 BSC		
H	9.20	9.50	9.80
L	1.27	1.47	1.67
L1	2.50	2.70	2.90
L2	0.508 BSC		
L3	0.50	0.70	0.90
L4	0.60	0.80	1.00
theta	0°	-	10°
theta1	(5°)		

### NOTES:

- Dimensions in millimeters
- These dimensions do not include protrusions of the mold.
- The “( )” mark is the reference.
- Coplanarity: MAX. 0.10 mm
- The “L4” symbol is a protrusion of the lead frame.
- Bare lead frame: Pb-free (RoHS compliant)
- When soldering the products, be sure to minimize the working time, within the following limits:  
 Flow:  $260 \pm 5 \text{ }^\circ\text{C} / 10 \pm 1 \text{ s}$ , 2 times  
 Soldering Iron:  $380 \pm 5 \text{ }^\circ\text{C} / 3.5 \pm 0.5 \text{ s}$ , 1 time

# SPEN-210A

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## Marking Diagram

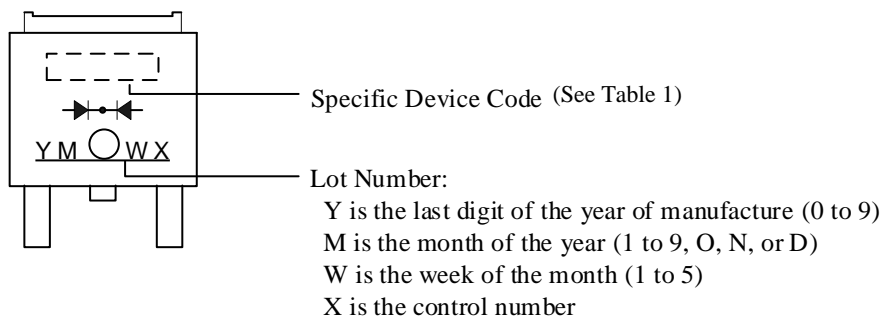


Table 1 Specific Device Code

Specific Device Code	Part Number
EN210A	SPEN-210A

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DSGN-CEZ-16002