V_{RSM} = 100 V, $I_{F(AV)}$ = 10 A
Schottky Diode

SPEN-210A

Data Sheet

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 A) ---------- 0.85 V typ
- RoHS Compliant

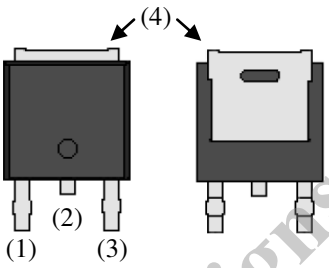
Application

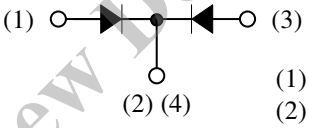
The high speed switching applications as follows:

- DC-DC Converter
- Adapter

Package

TO252





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

Not to scale

Absolute Maximum Ratings

Unless otherwise specified, T_A = 25 °C

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

Electrical Characteristics

Unless otherwise specified, T_A = 25 °C

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

[1] The rating of one chip.

Rating and Characteristics Curves

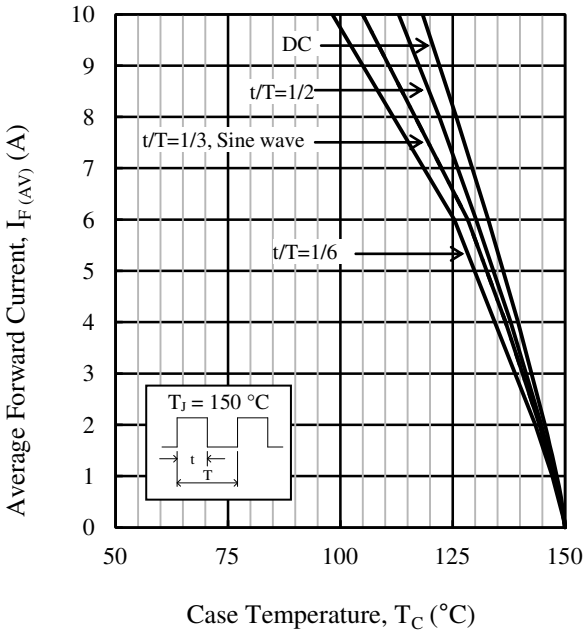


Figure 1. $I_{F(AV)}$ vs. Case Temperature Curves
V_R = 0 V

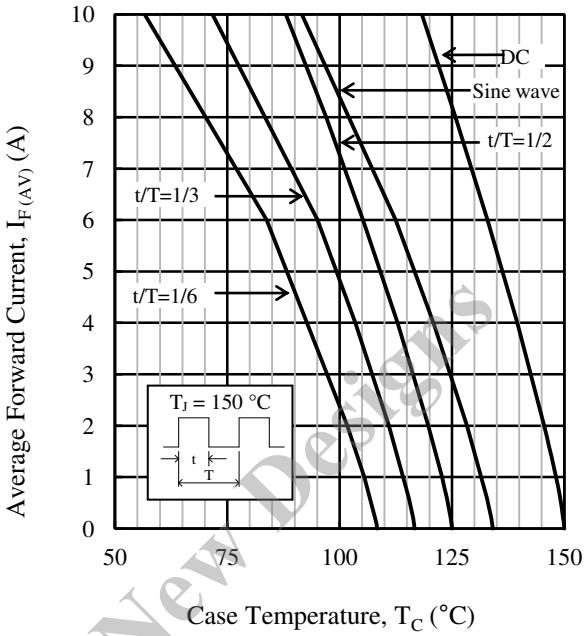


Figure 2. $I_{F(AV)}$ vs. Case Temperature Curves
V_R = 100 V

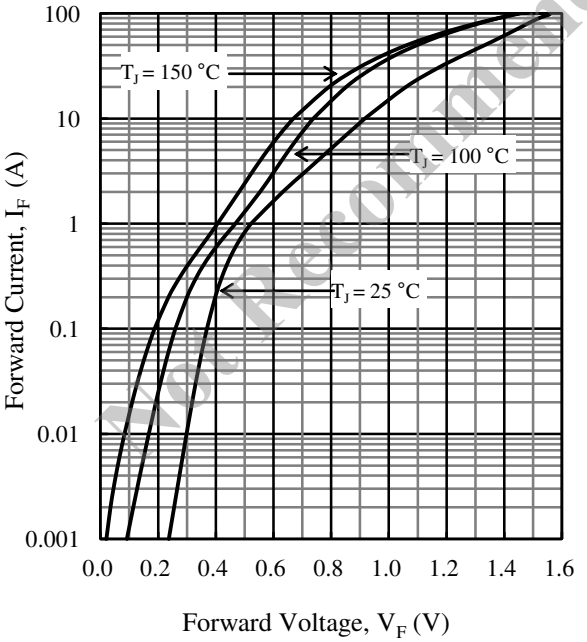


Figure 3. $I_F - V_F$ Typical Characteristics

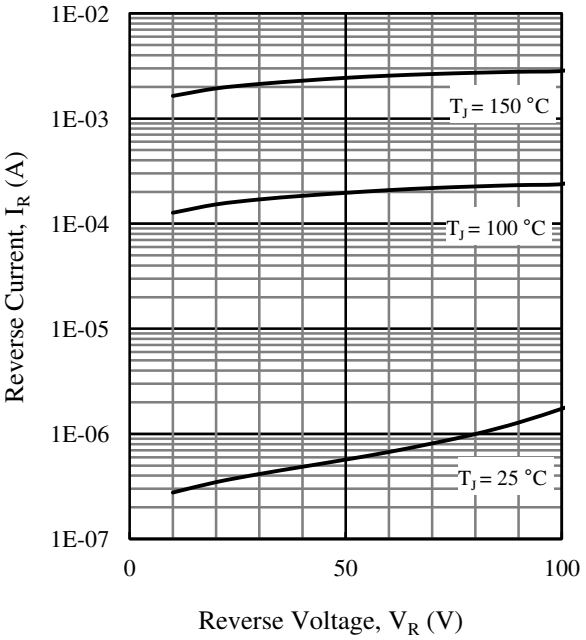
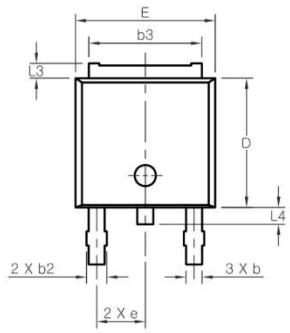
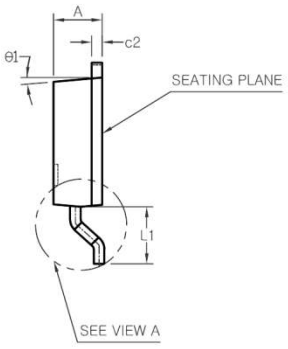


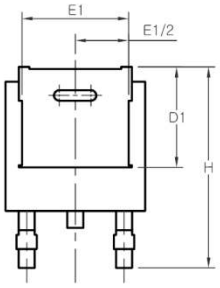
Figure 4. $I_R - V_R$ Typical Characteristics

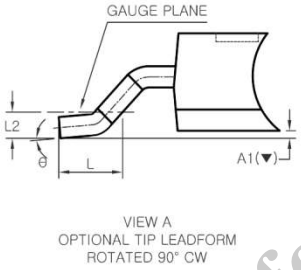
Physical Dimensions

● TO252







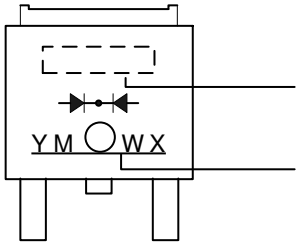


SYMBOL	MIN	NOM	MAX
A	2.20	2.30	2.40
A1 (▼)	0.00	–	0.127
b	0.66	0.76	0.86
b2	–	–	0.96
b3	5.04	5.34	5.64
c2	0.40	0.50	0.60
D	5.90	6.10	6.30
D1		(4.75)	
E	6.40	6.60	6.80
E1		(5.04)	
e		2.30 BSC	
H	9.20	9.50	9.80
L	1.27	1.47	1.67
L1	2.50	2.70	2.90
L2		0.508 BSC	
L3	0.50	0.70	0.90
L4	0.60	0.80	1.00
θ	0°	–	10°
θ1		(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 ± 5 °C / 10 ± 1 s, 2 times
  Soldering Iron: 380 ± 5 °C / 3.5 ± 0.5 s, 1 time

Marking Diagram



Specific Device Code (See Table 1)

Lot Number:
Y is the last digit of the year of manufacture (0 to 9)
M is the month of the year (1 to 9, O, N, or D)
W is the week of the month (1 to 5)
X is the control number

Table 1 Specific Device Code

Specific Device Code	Part Number
EN210A	SPEN-210A

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