



Schottky Rectifier

unit : mm

Applications

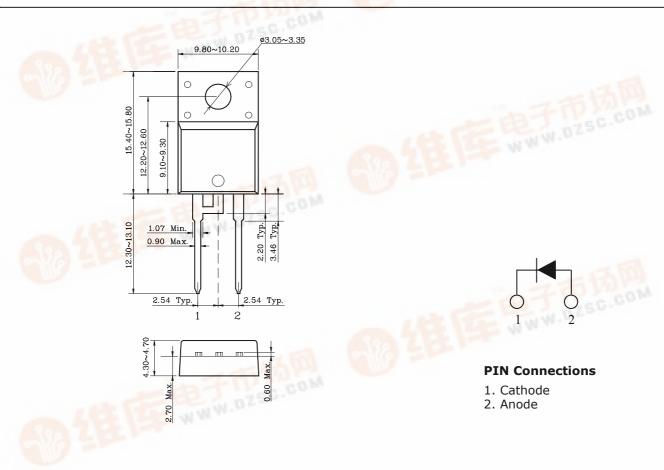
- Switching mode power supply
- Converter & chopper

Features

- Low forward voltage: V_{FM} =0.55V Max. @ I_F =10A
- Low reverse current: I_{RRM}=2mA Max. @ V_R=40V WWW.BZSC.COM
- Low switching loss

Ordering Information

Outline Dimensions





SDB1040PH

Absolute Maximum Ratings

Absolute Maximum Ratings			(Ta=25°C)
Characteristic	Symbol	Rating	Unit
Repetitive peak reverse voltage	V _{RRM}	40	V
Average rectified output current	Io	10	А
Peak surge forward current (Non-repetitive 60Hz sine wave)	I _{FSM}	120	А
Junction temperature	TJ	150	°C
Storage temperature range	T _{stg}	-55 ~ 150	°C

Electrical Characteristics

(Ta=25°C) **Test Condition** Characteristic Min. Typ. Max. Unit Symbol I_{F} =10A ¹⁾ --0.55 V Peak forward voltage V_{FM} $V_R = 40V$ Repetitive peak reverse current 2 $\mathbf{I}_{\mathsf{RRM}}$ -mΑ V_R =10V, f=1.0MHz -Total capacitance C_{T} -600 pF Junction to ambient -62.5 -°C/W Thermal resistance R_{th} Junction to case -_ 3.5

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

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40

Fig. 1 I₀ - V_F 100 Pulse test Forward current IF [A] Reverse current IR [mA] T_=125°C 10 1 $T_{J} = 7 5 \circ C$ 1 E F 0.1 0.1 TJ=25° 0.01 0.01 0.3 0.1 0.2 0.4 0.5 0.6 0 10 20 30 0 Forward voltage VF (V) Reverse voltage VR [V] Fig. 4 C_T - V_R Fig. 3 P_F - I_O 100 Ta=25°C f=1MHz Ta=25°C 8 0.5 Forward power dissipation Pr(AV) (W) $\mathbf{7}$ Total capacitance CT [nF] 0.25 6 10 0.16 È 5 D = 0.084 3 1 2 1 $D = \frac{TP}{T}$ 0 0.1 10 20 2 6 8 12 0 30 0 4 10 14 Average rectified output current Io [A] Reverse voltage VR [V] Fig. 5 I_{FSM} – Number of cycle Fig. 6 I_o derating - T_C Average rectifierd output current lo [A] $T_J=25$ °C Peak surge forward current Irsw [A] 14 f = 60 Hz160 12 $D = \frac{T_P}{T}$ TP 0.5 sine wave 10 120 0.3 0.25 8 0.16 80 6 0.08 4 40 2 ٥ **ل**

Fig. 2 I_R - V_R

Electrical Characteristic Curves

0

1

KSD-D0Q002-000

40

20

60

80

Case temperature Tc [°C]

100

120

100

10

Number of cycle

140 150

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