

DF40SC4

40V 40A

## 特長

- SMD
- PRISM アバランシェ保証
- 小型大電流容量

## Feature

- SMD
- PRISM Rating
- High Io Rating・Small-PKG

## 用途

- スイッチング電源
- DC/DC コンバータ
- 家電、ゲーム、OA 機器
- 通信、ポータブル機器

## Main Use

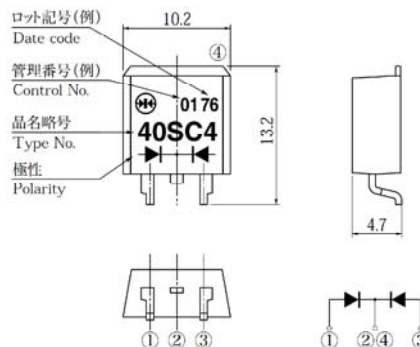
- Switching Regulator
- DC/DC Converter
- Home Appliance, Game, Office Automation
- Communication, Portable set

## ■外観図 OUTLINE

Package : STO-220

Unit:mm

Weight 1.5g (Typ)



外形図については新電元Webサイト又は〈半導体製品一覧表〉をご参照下さい。捺印表示については捺印仕様をご確認下さい。

For details of the outline dimensions, refer to our web site or Semiconductor Short Form Catalog. As for the marking, refer to the specification "Marking, Terminal Connection".

## ■定格表 RATINGS

●絶対最大定格 Absolute Maximum Ratings (指定のない場合  $T_c = 25^\circ\text{C}$ )

| 項目<br>Item                                             | 記号<br>Symbol | 条件<br>Conditions                                                                                                                                         | 品名<br>Type No. | DF40SC4 | 単位<br>Unit       |
|--------------------------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|------------------|
| 保存温度<br>Storage Temperature                            | $T_{stg}$    |                                                                                                                                                          |                | -55~150 | $^\circ\text{C}$ |
| 接合部温度<br>Operation Junction Temperature                | $T_j$        |                                                                                                                                                          |                | 150     | $^\circ\text{C}$ |
| せん頭逆電圧<br>Maximum Reverse Voltage                      | $V_{RM}$     |                                                                                                                                                          |                | 40      | V                |
| 繰り返しせん頭サージ逆電圧<br>Repetitive Peak Surge Reverse Voltage | $V_{RRSM}$   | パルス幅0.5ms, duty 1/40<br>Pulse width 0.5ms, duty 1/40                                                                                                     |                | 45      | V                |
| 出力電流<br>Average Rectified Forward Current              | $I_o$        | 50Hz正弦波, 抵抗負荷,<br>1素子当りの出力電流平均値 $I_o/2$ , $T_c = 106^\circ\text{C}$<br>50Hz sine wave, Resistance load,<br>Per diode $I_o/2$ , $T_c = 106^\circ\text{C}$ |                | 40      | A                |
| せん頭サージ順電流<br>Peak Surge Forward Current                | $I_{FSM}$    | 50Hz正弦波, 非繰り返し1サイクルせん頭値, $T_j = 25^\circ\text{C}$<br>50Hz sine wave, Non-repetitive 1 cycle peak value, $T_j = 25^\circ\text{C}$                         |                | 350     | A                |
| 繰り返しせん頭サージ逆電力<br>Repetitive Peak Surge Reverse Power   | $P_{RRSM}$   | パルス幅10 $\mu\text{s}$ , 1素子当り, $T_j = 25^\circ\text{C}$<br>Pulse width 10 $\mu\text{s}$ , Per diode, $T_j = 25^\circ\text{C}$                             |                | 1000    | W                |

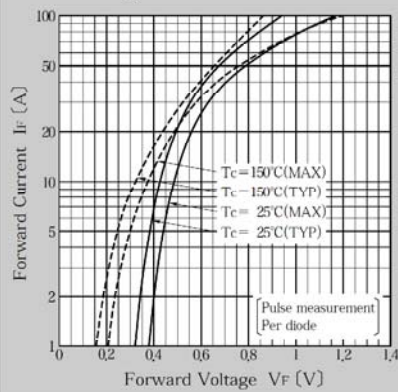
●電氣的・熱的特性 Electrical Characteristics (指定のない場合  $T_c = 25^\circ\text{C}$ )

|                              |               |                                                                          |          |                    |
|------------------------------|---------------|--------------------------------------------------------------------------|----------|--------------------|
| 順電圧<br>Forward Voltage       | $V_F$         | $I_F = 20\text{A}$ ,<br>パルス測定, 1素子当りの規格値<br>Pulse measurement, Per diode | MAX 0.55 | V                  |
| 逆電流<br>Reverse Current       | $I_R$         | $V_R = V_{RM}$ ,<br>パルス測定, 1素子当りの規格値<br>Pulse measurement, Per diode     | MAX 14   | mA                 |
| 接合容量<br>Junction Capacitance | $C_j$         | $f = 1\text{MHz}$ , $V_R = 10\text{V}$ ,<br>1素子当りの規格値<br>Per diode       | TYP 860  | pF                 |
| 熱抵抗<br>Thermal Resistance    | $\theta_{jc}$ | 接合部・ケース間<br>Junction to case                                             | MAX 1.5  | $^\circ\text{C/W}$ |

## ■特性図 CHARACTERISTIC DIAGRAMS

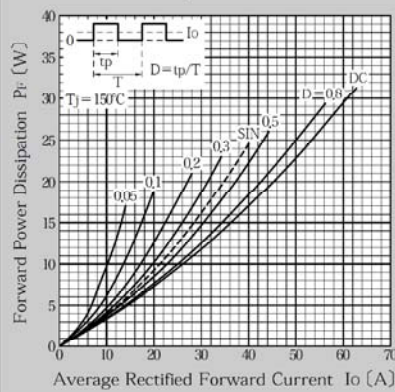
順方向特性

Forward Voltage



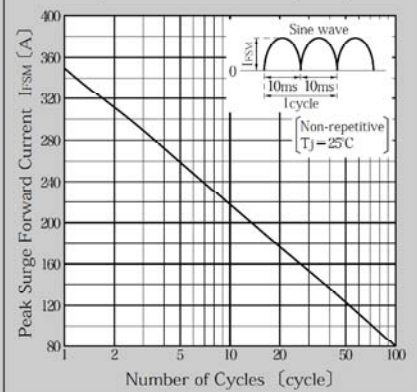
順電力損失曲線

Forward Power Dissipation



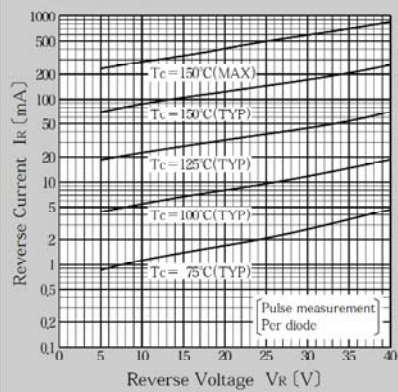
せん頭サージ順電流耐量

Peak Surge Forward Current Capability



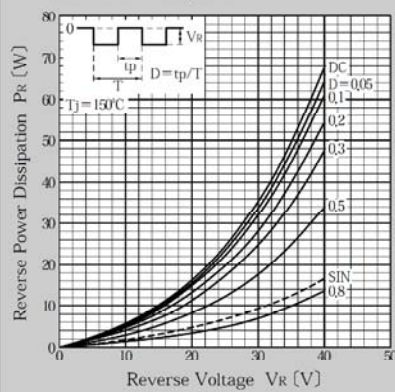
逆方向特性

Reverse Current



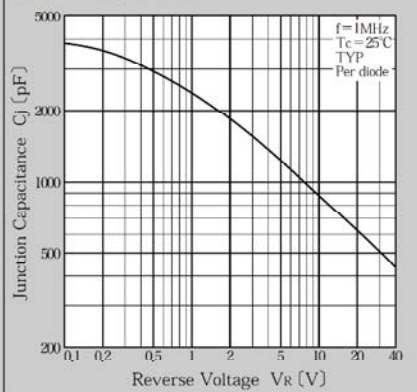
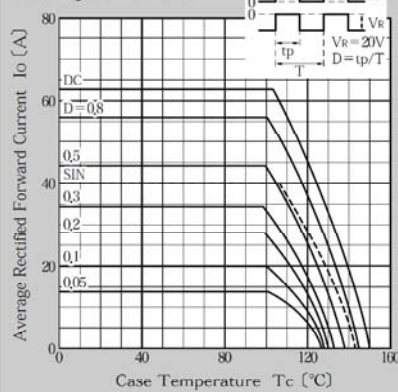
逆電力損失曲線

Reverse Power Dissipation



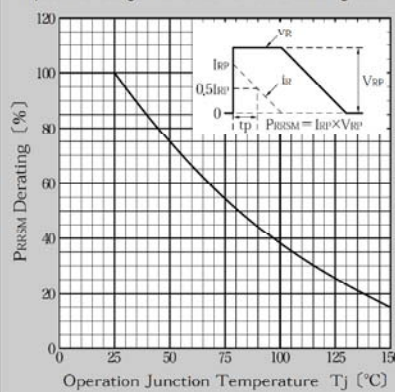
接合容量

Junction Capacitance

ディレーティングカーブ  $T_c$ - $I_o$ Derating Curve  $T_c$ - $I_o$ 

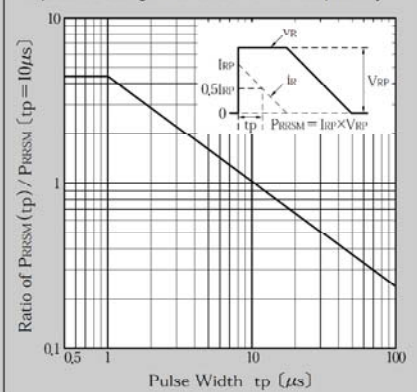
繰り返しせん頭サージ逆電力減少率

Repetitive Surge Reverse Power Derating Curve



繰り返しせん頭サージ逆電力耐量

Repetitive Surge Reverse Power Capability



- \* Sine waveは50Hzで測定しています。
- \* 50Hz sine wave is used for measurements.
- \* 半導体製品の特性は一般的にバラツキを持っています。
- \* Typical is a statistical average of the device's ability.
- \* Semiconductor products generally have characteristic variation.
- \* Typical is a statistical average of the device's ability.

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