

## DBA200YA40

UL; E76102 (M)

## DBA200YA40

## 〈Features &amp; Advantages〉

- Fast recovery diode with isolated module
- High speed yet low losses (low  $V_F$ ) using epitaxial wafer
- Ultra high speed  $t_{rr} = 60\text{ns}$  (Typ.)
- Low leakage current  $I_R \leq 6\text{mA}$  ( $T_j = 150^\circ\text{C}$ )
- UL recognized under UL File No.E76102
- EU RoHS compliant

## 〈Applications〉

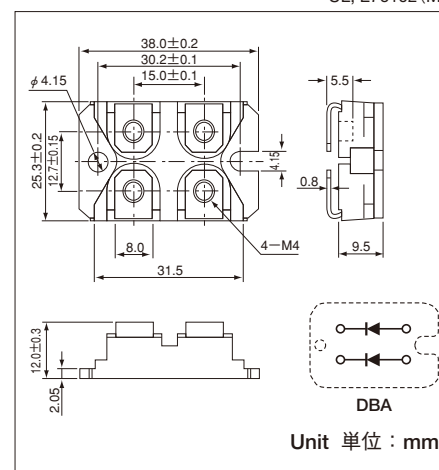
- Inverter Welding Machine
- Switching Mode Power Supply
- Power Supply for Telecommunication

## 〈特長〉

- 絶縁型高速ダイオードモジュール
- エピタキシャルウェハ採用で高速かつ低損失 (低 $V_F$ ) を実現。
- 超高速  $t_{rr} = 60\text{ns}$  (Typ.)
- 低逆電流  $I_R \leq 6\text{mA}$  ( $T_j = 150^\circ\text{C}$ )
- UL規格取得 UL File No.E76102
- 欧州RoHS指令適合

## 〈用途〉

- インバータ溶接機
- スイッチング電源
- 通信用電源


**Maximum Ratings 最大定格** (Unless otherwise specified  $T_j = 25^\circ\text{C}$ , per one element / 特にことわらない限り  $T_j = 25^\circ\text{C}$  単位エレメント当たり)

| Symbol 記号  | Item 項目                       | Ratings 定格値 | Unit 単位 |
|------------|-------------------------------|-------------|---------|
| $V_R$ (DC) | D.C. Reverse Voltage<br>直流逆電圧 | 400         | V       |

| Symbol 記号  | Item 項目                                  | Conditions 条件                                                                | Ratings 定格値                      | Unit 単位              |
|------------|------------------------------------------|------------------------------------------------------------------------------|----------------------------------|----------------------|
| $I_F$ (AV) | Average Forward Current<br>平均順電流         | D.C. $T_c = 89^\circ\text{C}$<br>直流 ケース温度 $89^\circ\text{C}$                 | 100                              | A                    |
| $I_{FSM}$  | Surge Forward Current<br>サージ順電流          | 50/60Hz, 1/2cycle, Peak value, non-repetitive<br>50/60Hz 1/2サイクル正弦波 波高値 非繰返し | 1000/1100                        | A                    |
| $I^2t$     | $I^2t$<br>電流二乗時間積                        | Value for one cycle of surge current<br>1 サイクルサージ順電流に対する値                    | 5000                             | $\text{A}^2\text{s}$ |
| $T_j$      | Junction Temperature<br>接合温度             |                                                                              | $-40 \sim +150$                  | $^\circ\text{C}$     |
| $T_{stg}$  | Storage Temperature<br>保存温度              |                                                                              | $-40 \sim +125$                  | $^\circ\text{C}$     |
| $V_{iso}$  | Isolation Voltage (R.M.S.)<br>絶縁耐圧 (実効値) | A.C. 1minute<br>A.C. 1 分間                                                    | 2500                             | V                    |
|            | Mounting torque<br>締付トルク                 | Mounting M4<br>取付 (M4)                                                       | Recommended Value<br>推奨値 1.0~1.4 | N·m                  |
|            |                                          | Terminal M4<br>端子 (M4)                                                       | Recommended Value<br>推奨値 1.0~1.4 |                      |
|            | Mass<br>質量                               | Typical Value<br>標準値                                                         | 30                               | g                    |

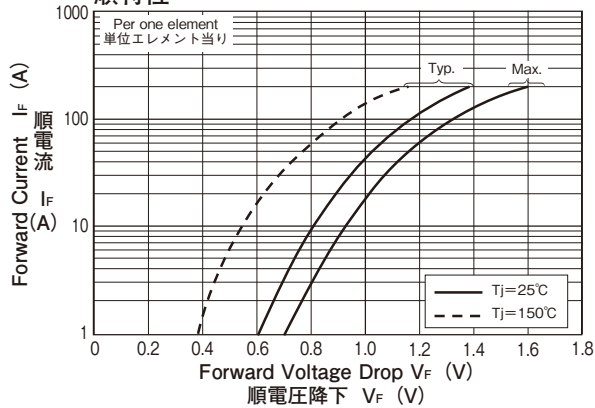
**Electrical Characteristics 電気的特性** (Unless otherwise specified  $T_j = 25^\circ\text{C}$ , per one element / 特にことわらない限り  $T_j = 25^\circ\text{C}$  単位エレメント当たり)

| Symbol 記号     | Item 項目                                                | Conditions 条件                                                                  | Ratings 規格値 |      |      | Unit 単位                   |
|---------------|--------------------------------------------------------|--------------------------------------------------------------------------------|-------------|------|------|---------------------------|
|               |                                                        |                                                                                | Min.        | Typ. | Max. |                           |
| $I_R$         | Reverse Current<br>逆電流                                 | $V_R = 400\text{V}$ , $T_j = 150^\circ\text{C}$                                |             |      | 6    | mA                        |
| $V_{FM}$      | Forward Voltage Drop<br>順電圧降下                          | $I_F = 100\text{A}$                                                            |             | 1.20 | 1.35 | V                         |
| $t_{rr}$      | Reverse Recovery time<br>逆回復時間                         | $I_F = 100\text{A}$ , $V_R = 200\text{V}$ , $-di/dt = 200\text{A}/\mu\text{s}$ |             | 60   | 85   | ns                        |
|               |                                                        | $I_F = 1\text{A}$ , $V_R = 30\text{V}$ , $-di/dt = 400\text{A}/\mu\text{s}$    |             | (37) |      |                           |
| $R_{th(j-c)}$ | Thermal Resistance (Junction to case)<br>熱抵抗 (接合・ケース間) |                                                                                |             |      | 0.45 | $^\circ\text{C}/\text{W}$ |

\* ( ) : Reference Data / 参考値

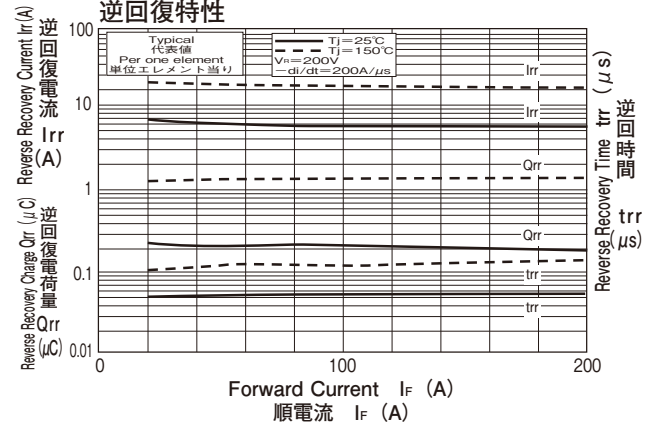
## Forward Characteristics

### 順特性



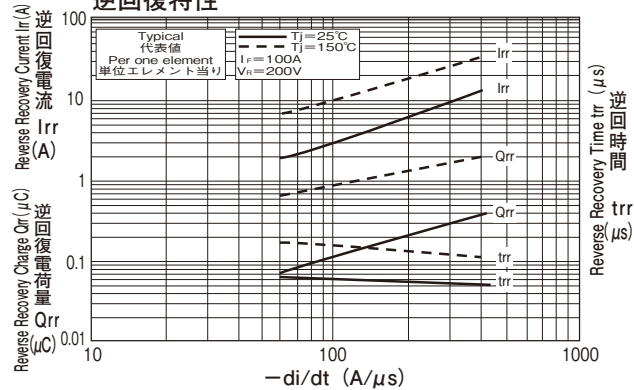
## Reverse Recovery Characteristics

### 逆回復特性



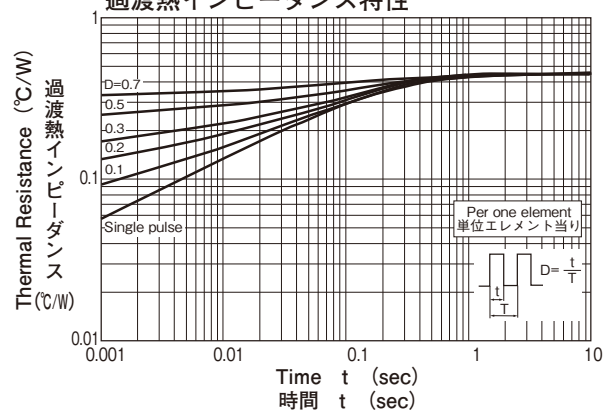
## Reverse Recovery Characteristics

### 逆回復特性



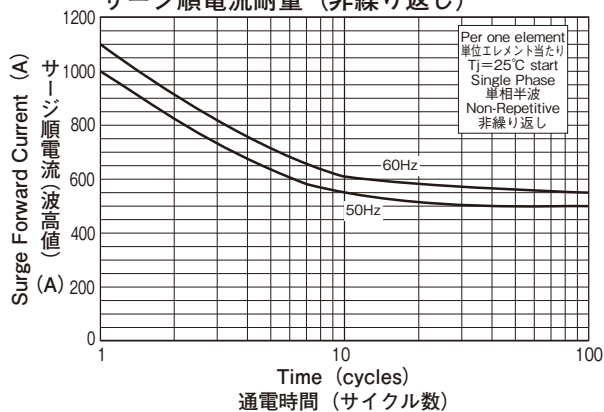
## Transient Thermal Impedance

### 過渡熱インピーダンス特性



## Cycle Surge Forward Current Rating (Non-Repetitive)

### サージ順電流耐量 (非繰り返し)



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