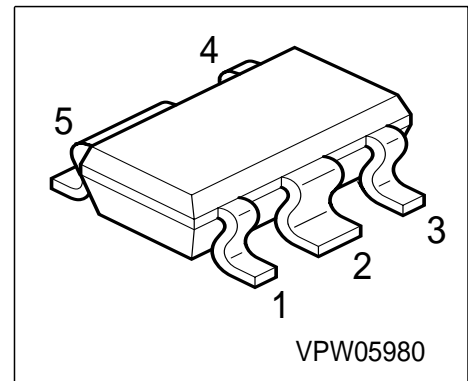


Silicon Switching Diode

Preliminary data

- Switching applications
- High breakdown voltage



| Type | Marking | Ordering Code | Pin Configuration | | | | | Package |
|---------|---------|---------------|-------------------|-------|--------|--------|-------|---------|
| BAW 78M | GDs | Q62702-A3471 | 1 = A | 2 = C | 3 n.c. | 4 n.c. | 5 = C | SCT-595 |

Maximum Ratings

| Parameter | Symbol | Values | Unit |
|--|-----------|--------------|------------------|
| Diode reverse voltage | V_R | 400 | V |
| Peak reverse voltage | V_{RM} | 400 | |
| Forward current | I_F | 1 | A |
| Peak forward current | I_{FM} | 1 | |
| Surge forward current, $t = 1 \mu s$ | I_{FS} | 10 | |
| Total power dissipation, $T_S \leq 110 \text{ }^\circ\text{C}$ | P_{tot} | 1 | W |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | - 65 ...+150 | |

Thermal Resistance

| | | | |
|----------------------------------|------------|-----------|-----|
| Junction - ambient ¹⁾ | R_{thJA} | ≤ 95 | K/W |
| Junction - soldering point | R_{thJS} | ≤ 40 | |

1) Package mounted on epoxy pcb 40mm x 40mm x 1.5mm / 6cm² Cu

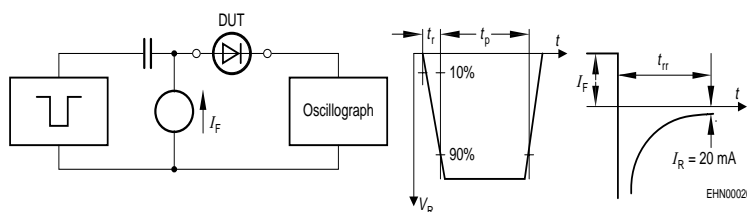
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified.

| Parameter | Symbol | Values | | | Unit |
|---|------------|--------|------|----------|---------------|
| | | min. | typ. | max. | |
| DC characteristics | | | | | |
| Breakdown voltage $I_{(BR)} = 100 \mu\text{A}$ | $V_{(BR)}$ | 400 | - | - | V |
| Forward voltage $I_F = 1 \text{ A}$ $I_F = 2 \text{ A}$ | V_F | - | - | 1.6 2 | |
| Reverse current $V_R = 400 \text{ V}$ | I_R | - | - | 1 | μA |
| Reverse current $V_R = 400 \text{ V}, T_A = 150^\circ\text{C}$ | I_R | - | - | 50 | |

AC characteristics

| | | | | | |
|--|----------|---|----|---|----|
| Diode capacitance $V_R = 0 \text{ V}, f = 1 \text{ MHz}$ | C_D | - | 10 | - | pF |
| Reverse recovery time $I_F = 200 \text{ mA}, I_R = 200 \text{ mA}, R_L = 100 \Omega$, measured at $I_R = 20 \text{ mA}$ | t_{rr} | - | 1 | - | ns |

Test circuit for reverse recovery time

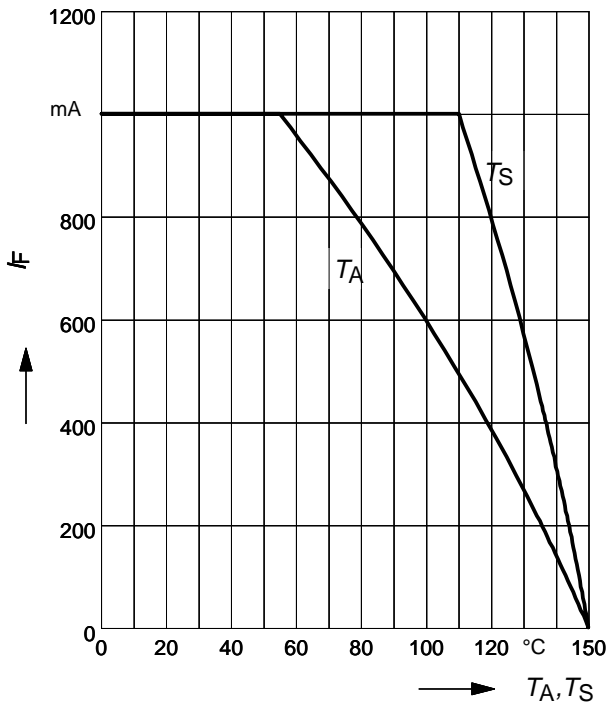


Pulse generator: $t_p = 100 \text{ ns}$, $D = 0.05$,
 $t_r = 0.6 \text{ ns}$, $R_i = 50 \Omega$

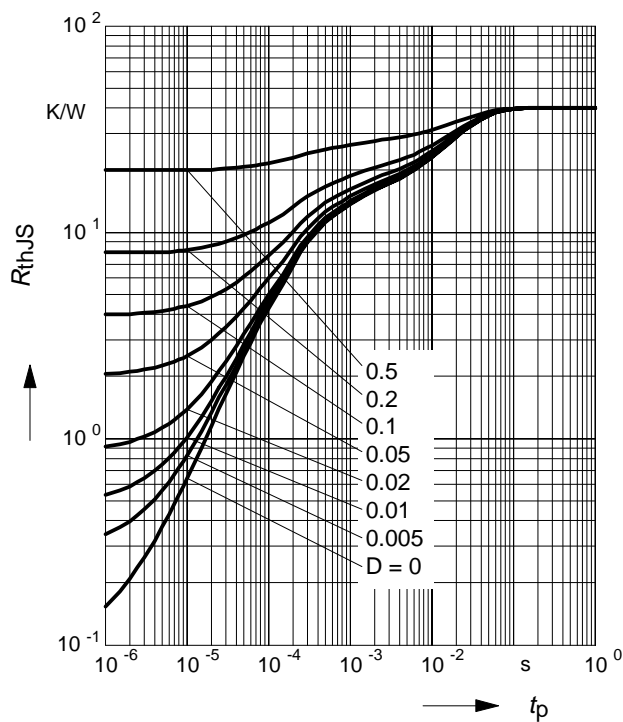
Oscilloscope: $R = 50 \Omega$, $t_f = 0.35 \text{ ns}$,
 $C \leq 1 \text{ pF}$

Forward current $I_F = f(T_A^*; T_S)$

* Package mounted on epoxy

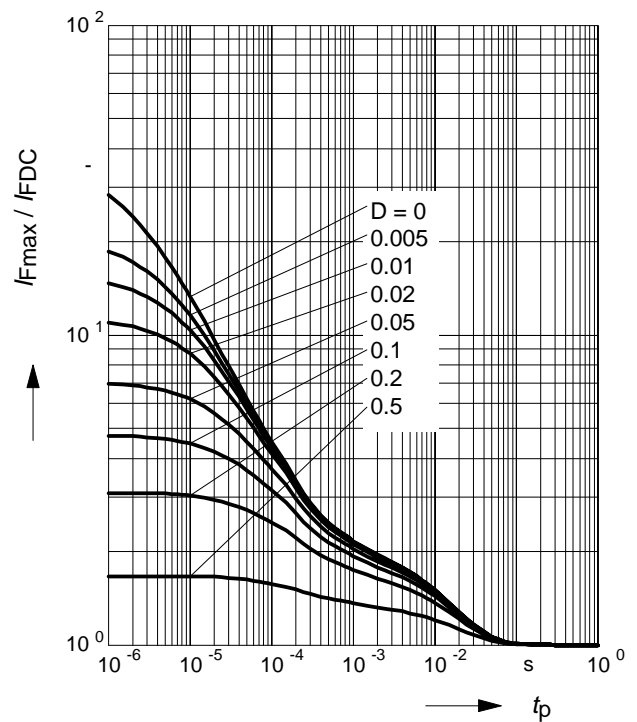


Permissible Pulse Load $R_{thJS} = f(t_p)$



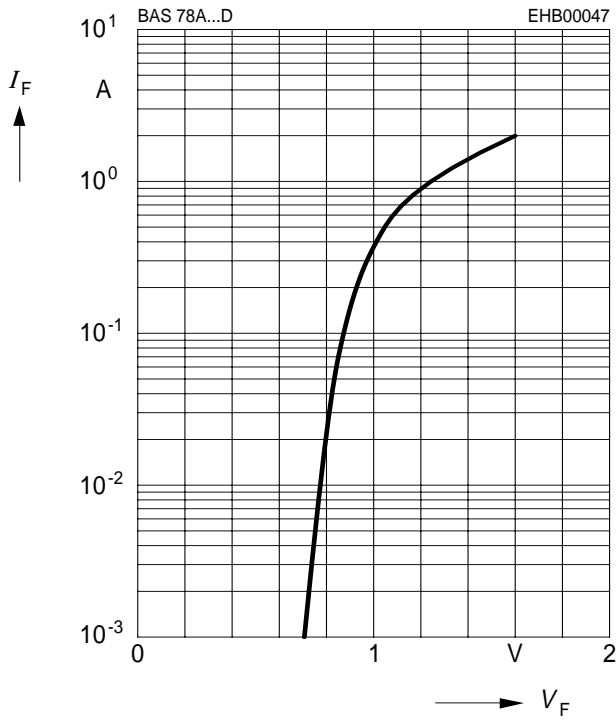
Permissible Pulse Load

$I_{Fmax} / I_{FDC} = f(t_p)$



Forward current $I_F = f(V_F)$

$T_A = 25^\circ\text{C}$



Reverse current $I_R = f(T_A)$

