# SIEMENS

Silicon Switching Diode

Preliminary data

- Switching applications

- High breakdown voltage

VPW05980
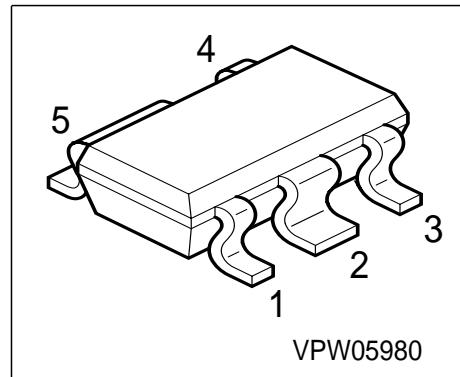
Type	Marking	Ordering Code	Pin Configuration					Package
BAW 78M	GDs	Q62702-A3471	1 = A	2 = C	3 n.c.	4 n.c.	5 = C	SCT-595

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 µs	I_{FS}	10	
Total power dissipation, $T_S \leq 110\ °C$	P_{tot}	1	W
Junction temperature	T_j	150	°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 / 6cm^2 Cu

Electrical Characteristics at T_A = 25°C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(BR)}$ = 100 µA	$V_{(BR)}$	400	-	-	V
Forward voltage I_F = 1 A I_F = 2 A	V_F	- -	- -	1.6 2	
Reverse current V_R = 400 V	I_R	-	-	1	µA
Reverse current V_R = 400 V, T_A = 150 °C	I_R	-	-	50	
AC characteristics					
Diode capacitance V_R = 0 V, f = 1 MHz	C_D	-	10	-	pF
Reverse recovery time I_F = 200 mA, I_R = 200 mA, R_L = 100 Ω, measured at I_R = 20mA	t_{rr}	-	1	-	ns

Test circuit for reverse recovery time
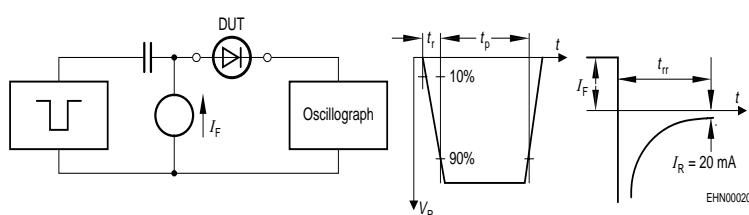
Pulse generator: t_p = 100ns, D = 0.05, t_r = 0.6ns, R_i = 50Ω

Oscillograph: R = 50Ω, t_r = 0.35ns, $C ≤$ 1pF

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

 * Package mounted on epoxy
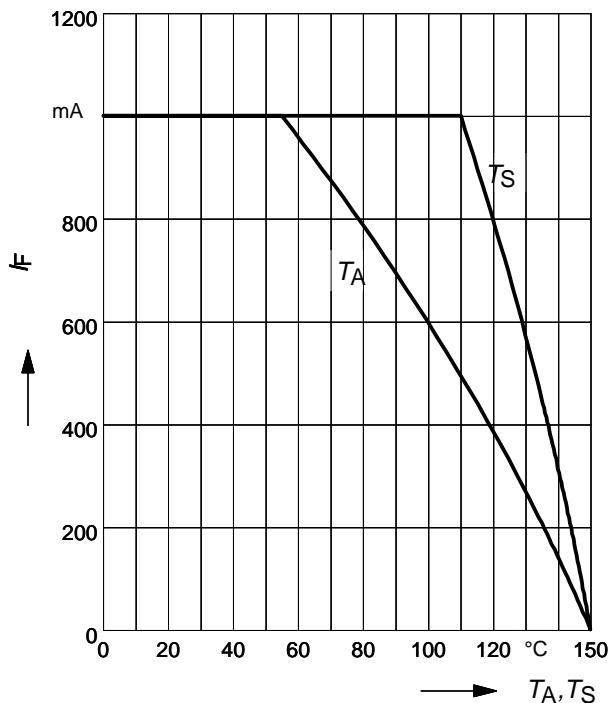

Permissible Pulse Load $R_{thJS} = f(t_p)$
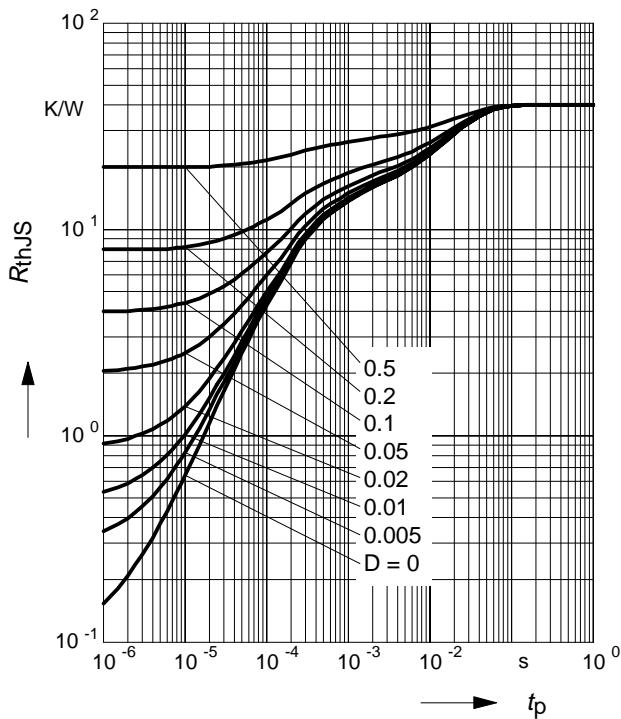
Permissible Pulse Load

$I_{Fmax} / I_{FDC} = f(t_p)$
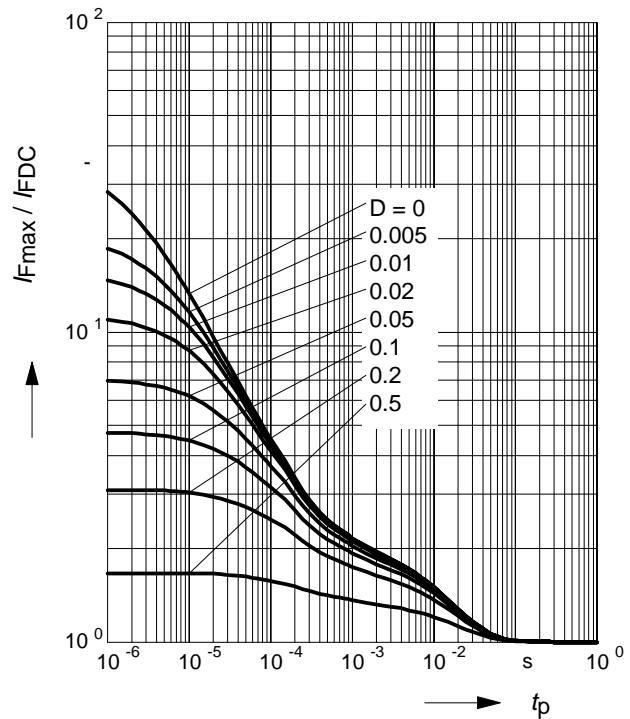
Forward current $I_F = f \, V_F)$

$T_A = 25°C$

Reverse current $I_R = f \, (T_A)$