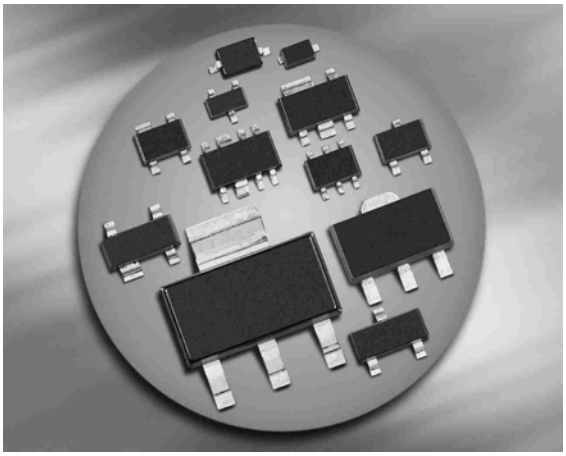
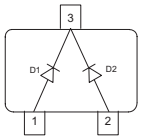
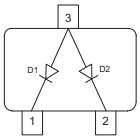
Silicon Switching Diode

- For high-speed switching applications (trr < 4ns)
- Very low diode capacitance (C_T < 1.5pF)
- Small SMD package SC75 (JEDEC: SOT416)



BAV222 **BAW222**





Type	Package	Configuration	Marking
BAV222*	SC75	common cathode	A4s
BAW222*	SC75	common anode	A1s

* Preliminary

Maximum Ratings at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	80	V
Peak reverse voltage	V_{RM}	85	
Forward current	I_F	200	mA
Peak forward current	I_{FM}	300	
Surge forward current, t = 1µs	I_{FS}	4.5	A
Mean rectifying current	I_O	100	mA
Total power dissipation	P_{tot}		mW
BAV222, $T_S \leq$ 73°C		250	
BAW222, $T_S \leq$ tbd		250	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

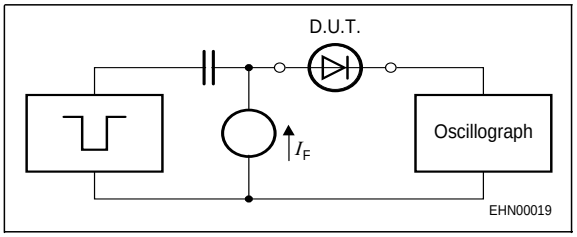
Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}		K/W
BAV222		≤ 310	
BAW222		≤ tbd	

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	$V_{(BR)}$	85	-	-	V
Reverse current	I_R				µA
V_R = 70 V		-	-	0.1	
V_R = 25 V, T_A = 150 °C		-	-	30	
V_R = 70 V, T_A = 150 °C		-	-	50	
Forward voltage	V_F				mV
I_F = 1 mA		-	-	715	
I_F = 10 mA		-	-	855	
I_F = 50 mA		-	-	1000	
I_F = 100 mA		-	-	1200	
I_F = 150 mA		-	-	1250	
AC Characteristics					
Diode capacitance V_R = 6 V, f = 1 MHz	C_T	-	-	1.5	pF
Reverse recovery time I_F = 5 mA, V_R = 6 V, measured at 0.1 I_R , R_L = 100 Ω	t_{rr}	-	-	4	ns

Test circuit for reverse recovery time



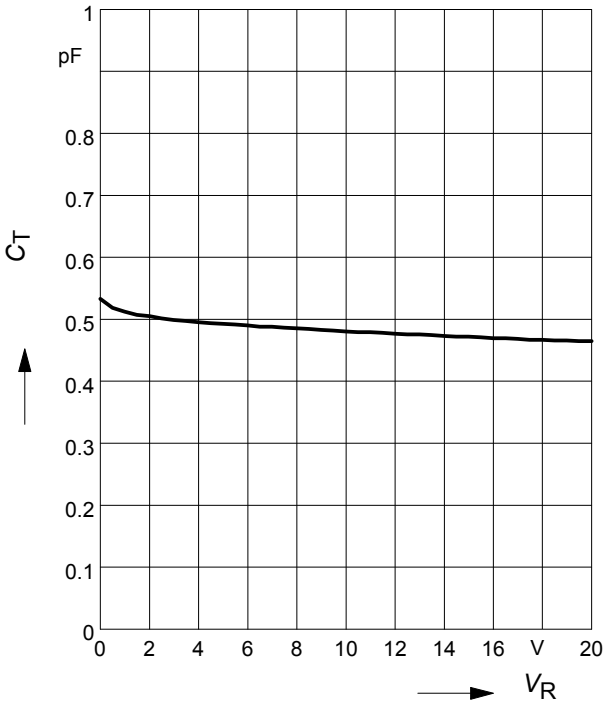
Pulse generator: t_p = 100ns, D = 0.05, t_r = 0.6ns, R_i = 50Ω

Oscillograph: R = 50 , t_r = 0.35ns, C = 0.05pf

[1]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

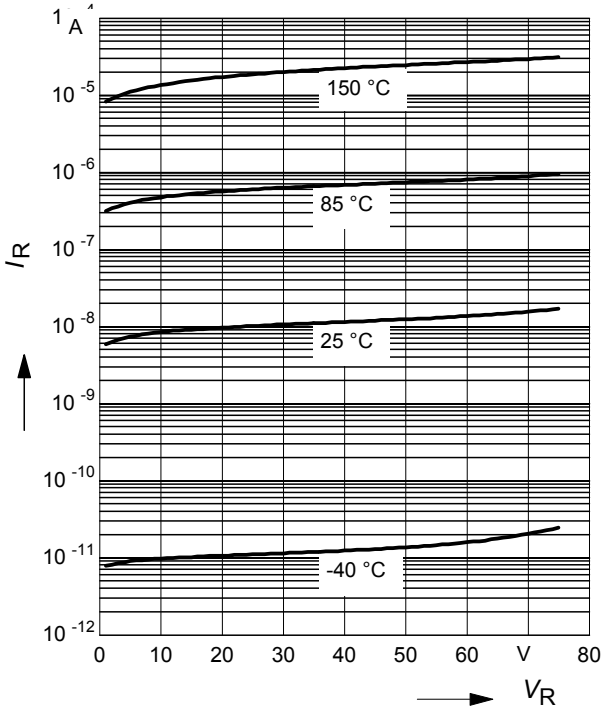
Diode capacitance $C_T = f(V_R)$

f = 1MHz



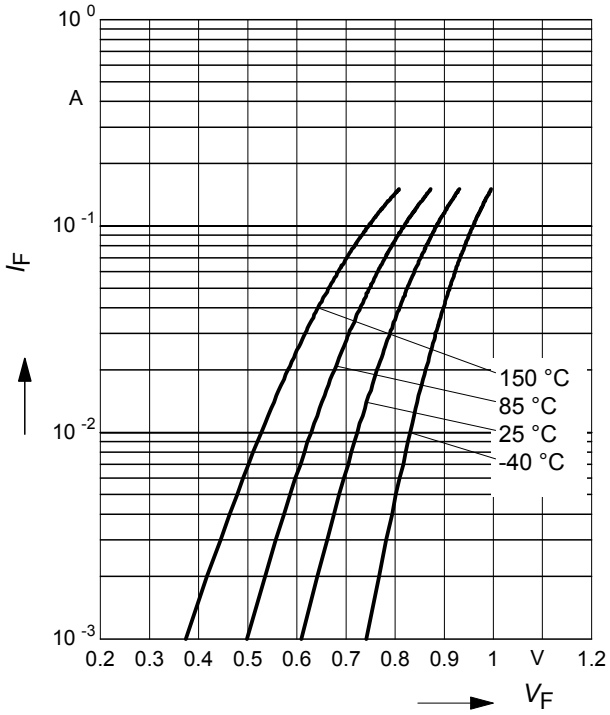
Reverse current $I_R = f(V_R)$

T_A = Parameter



Forward current $I_F = f(V_F)$

T_A = Parameter



Published by Infineon Technologies AG,
St.-Martin-Strasse 53,
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