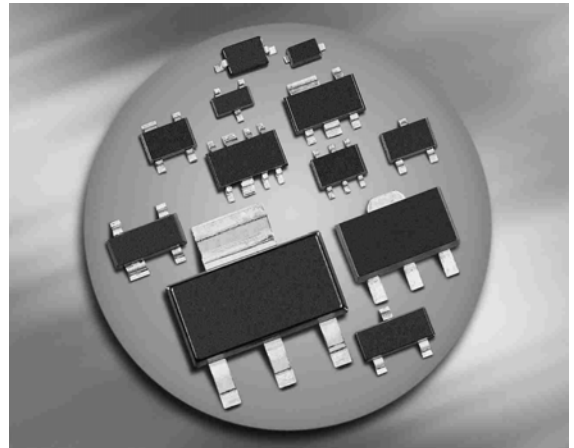
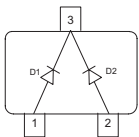


Silicon Switching Diode

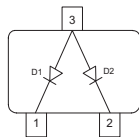
- For high-speed switching applications ($t_{rr} < 4\text{ns}$)
- Very low diode capacitance ($C_T < 1.5\text{pF}$)
- Small SMD package SC75 (JEDEC: SOT416)



BAV222



BAW222



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

* Preliminary

Maximum Ratings at $T_A = 25^\circ\text{C}$, 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, $t = 1\mu\text{s}$	I_{FS}	4.5	A
Mean rectifying current	I_O	100	mA
Total power dissipation	P_{tot}		mW
BAV222, $T_S \leq 73^\circ\text{C}$		250	
BAW222, $T_S \leq \text{tbd}$		250	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

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

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

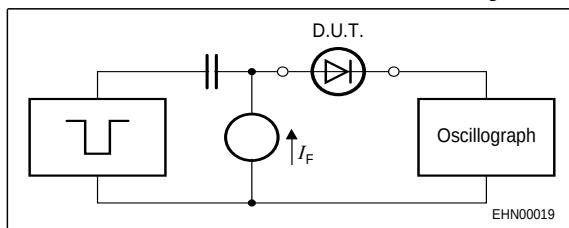
Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

Breakdown voltage $I_{(BR)} = 100 \mu\text{A}$	$V_{(BR)}$	85	-	-	V
Reverse current $V_R = 70 \text{ V}$ $V_R = 25 \text{ V}, T_A = 150^\circ\text{C}$ $V_R = 70 \text{ V}, T_A = 150^\circ\text{C}$	I_R	- - -	- - -	0.1 30 50	μA
Forward voltage $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 50 \text{ mA}$ $I_F = 100 \text{ mA}$ $I_F = 150 \text{ mA}$	V_F	- - - - -	- - - - -	715 855 1000 1200 1250	mV

AC Characteristics

Diode capacitance $V_R = 6 \text{ V}, f = 1 \text{ MHz}$	C_T	-	-	1.5	pF
Reverse recovery time $I_F = 5 \text{ mA}, V_R = 6 \text{ V}$, measured at $0.1 I_R$, $R_L = 100 \Omega$	t_{rr}	-	-	4	ns

Test circuit for reverse recovery time


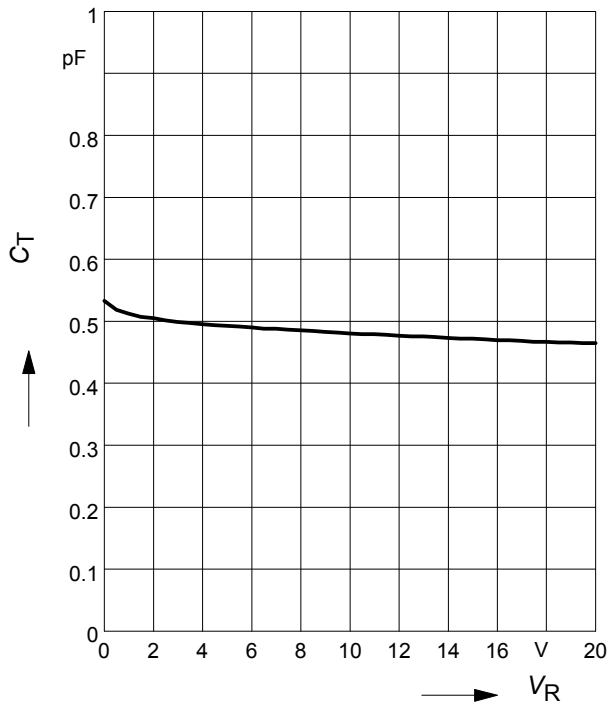
Pulse generator: $t_p = 100\text{ns}$, $D = 0.05$, $t_r = 0.6\text{ns}$,
 $R_i = 50\Omega$

Oscilloscope: $R = 50$, $t_r = 0.35\text{ns}$, $C = 0.05\text{pf}$

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

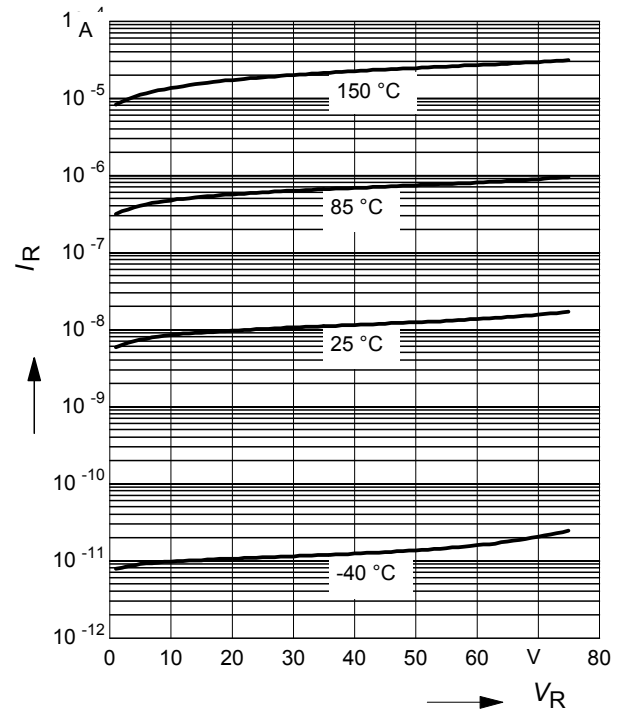
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



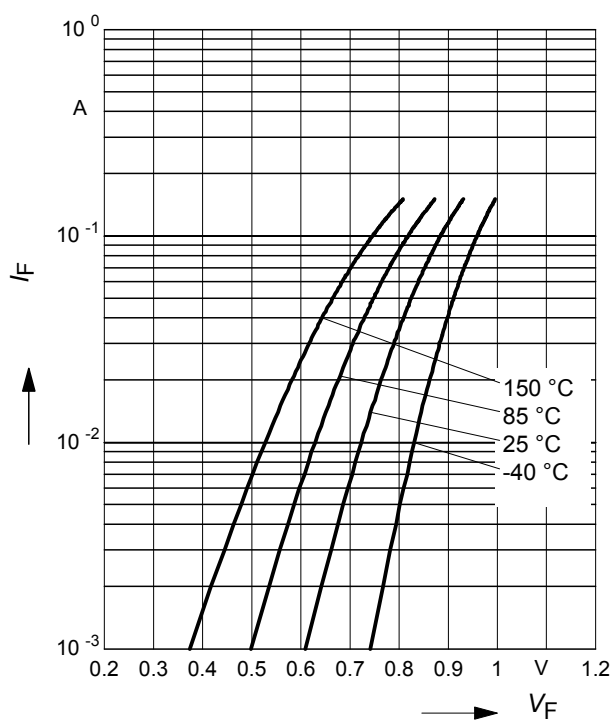
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



Forward current $I_F = f(V_F)$

$T_A = \text{Parameter}$



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