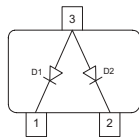
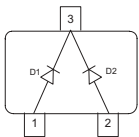


**Silicon Switching Diode**

- 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)
- Pb-free (RoHS compliant) package<sup>1)</sup>
- Qualified according AEC Q101


**BAV222**
**BAW222**


Type	Package	Configuration	Marking
BAV222	SC75	common cathode	A4
BAW222	SC75	common anode	A1

**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	
Mean rectifying current	$I_O$	100	mA
Peak forward current	$I_{FM}$	300	
Surge forward current, $t = 1\mu\text{s}$	$I_{FS}$	4.5	A
Non-repetitive peak surge forward current	$I_{FSM}$	-	
Total power dissipation	$P_{tot}$		mW
BAV222, $T_S \leq 73^\circ\text{C}$		250	
BAW222, $T_S \leq 104^\circ\text{C}$		250	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-65 ... 150	

<sup>1)</sup>Pb-containing package may be available upon special request

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$		K/W
BAV222		≤ 310	
BAW222		≤ 185	

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

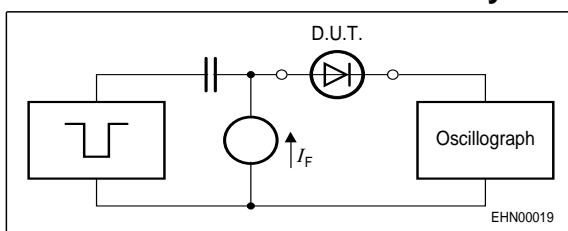
Parameter	Symbol	Values			Unit
		min.	typ.	max.	

**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	$\mu\text{A}$
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 $V_R = 6 \text{ V}, f = 1 \text{ MHz}$	$C_T$	-	0.5	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**


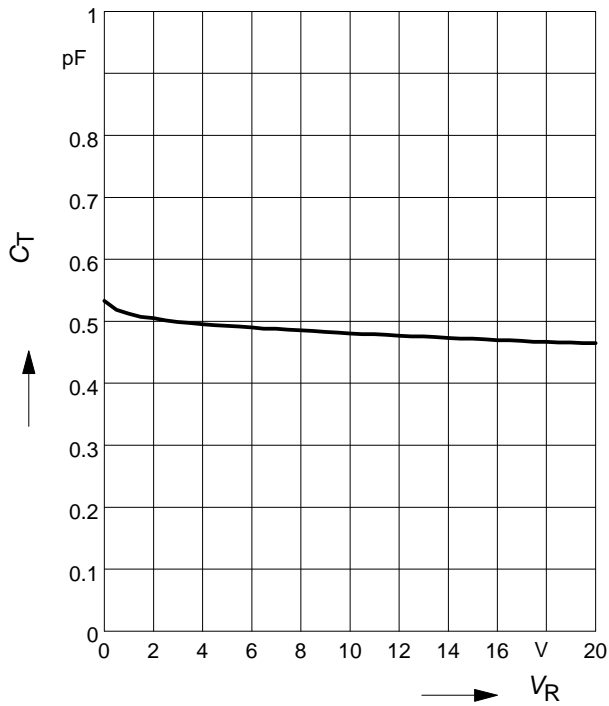
Pulse generator:  $t_p = 100\text{ns}$ ,  $D = 0.05$ ,  $t_f = 0.6\text{ns}$ ,  
 $R_f = 50\Omega$

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

<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

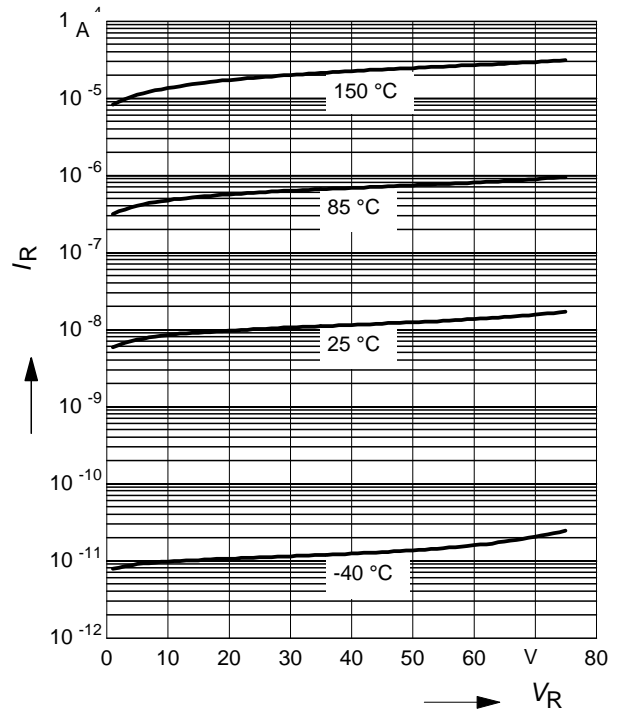
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



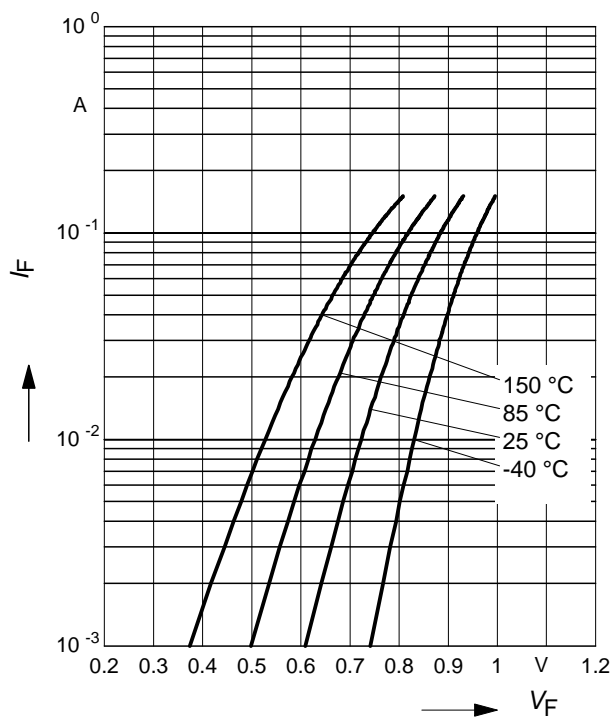
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$

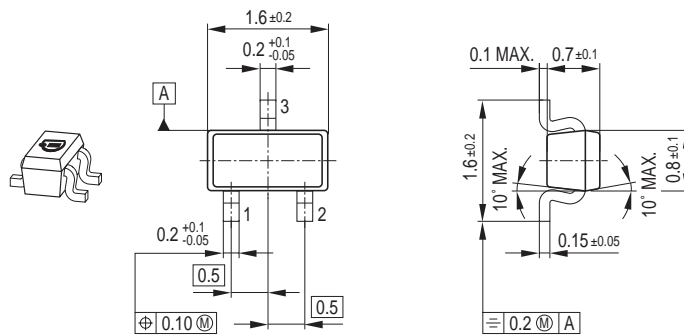


**Forward current  $I_F = f(V_F)$**

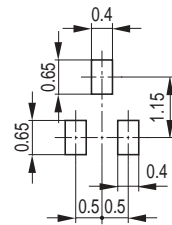
$T_A = \text{Parameter}$



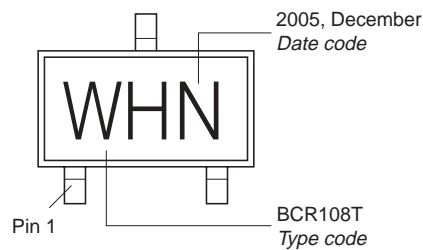
Package Outline



Foot Print

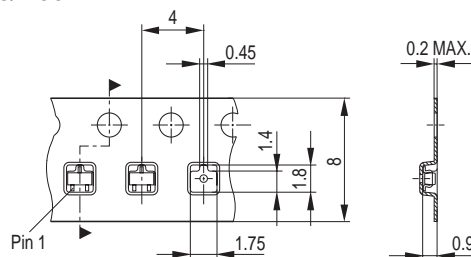


Marking Layout (Example)



Standard Packing

Reel  $\varnothing$ 180 mm = 3.000 Pieces/Reel  
 Reel  $\varnothing$ 330 mm = 10.000 Pieces/Reel



Date Code marking for discrete packages with one digit (SCD80, SC79, SC75<sup>1)</sup>) CES-Code

Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y	j	y	J	Y
10	k	z	K	Z	k	z	K	Z	k	z	K	Z
11	l	2	L	4	l	2	L	4	l	2	L	4
12	n	3	N	5	n	3	N	5	n	3	N	5

1) New Marking Layout for SC75, implemented at October 2005.

Edition 2006-02-01

Published by

Infineon Technologies AG

81726 München, Germany

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