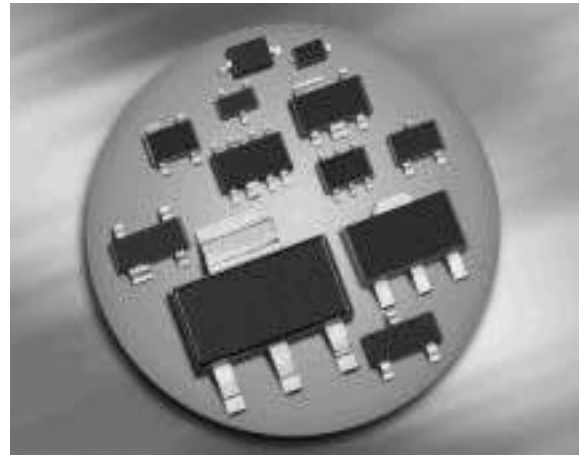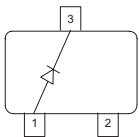**Silicon Switching Diode**

- For high-speed switching applications

- Pb-free (RoHS compliant) package[1]

- Qualified according AEC Q101

SMBD914/MMBD914

Type	Package	Configuration	Marking
SMBD914/MMBD914	SOT23	single	s5D

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	100	V
Peak reverse voltage	V_{RM}	100	
Forward current	I_F	250	mA
Non-repetitive peak surge forward current	I_{FSM}		A
t = 1 µs		4.5	
t = 1 s		0.5	
Total power dissipation	P_{tot}	370	mW
$T_S \leq$ 54°C			
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[2] SMBD914/MMBD914	R_{thJS}	$\leq$ 260	K/W

[1]Pb-containing package may be available upon special request
[2]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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**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	$V_{(BR)}$	100	-	-	V
Reverse current	I_R				µA
V_R = 20 V		-	-	0.025	
V_R = 75 V		-	-	0.1	
V_R = 20 V, T_A = 150 °C		-	-	30	
V_R = 75 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 = 0 V, f = 1 MHz	C_T	-	-	2	pF
Reverse recovery time I_F = 10 mA, I_R = 10 mA, measured at I_R = 1mA , R_L = 100 Ω	t_{rr}	-	-	4	ns

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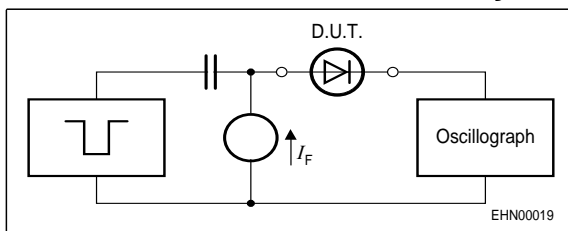
Pulse generator: t_p = 100ns, D = 0.05, t_r = 0.6ns, R_i = 50Ω

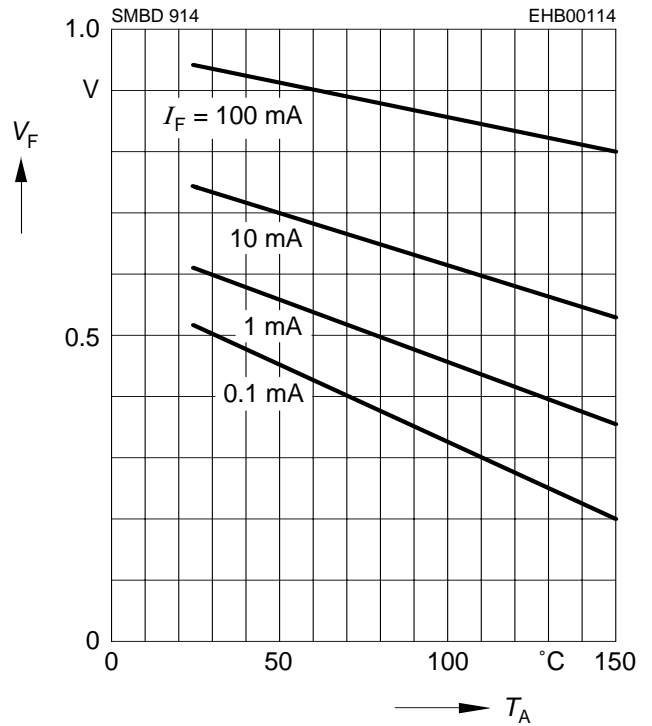Oscillograph: R = 50Ω, t_r = 0.35ns, $C \le$ 1pF

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Reverse current $I_R = f(T_A)$

V_R = Parameter
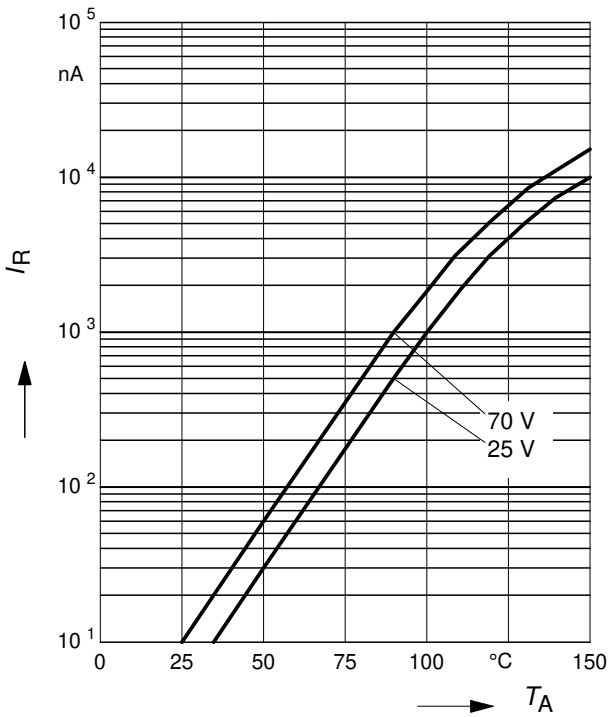
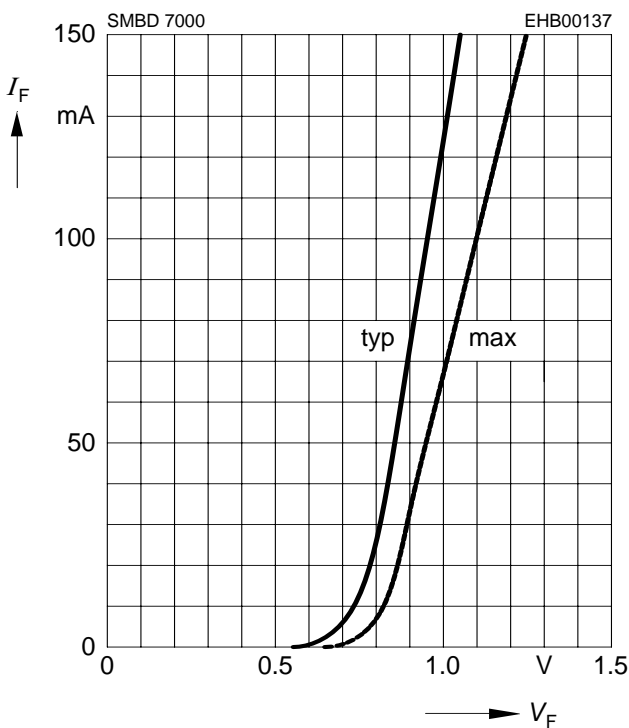**Forward Voltage** $V_F = f(T_A)$

I_F = Parameter

Forward current $I_F = f(V_F)$

$T_A = 25°C$

Forward current $I_F = f(T_S)$
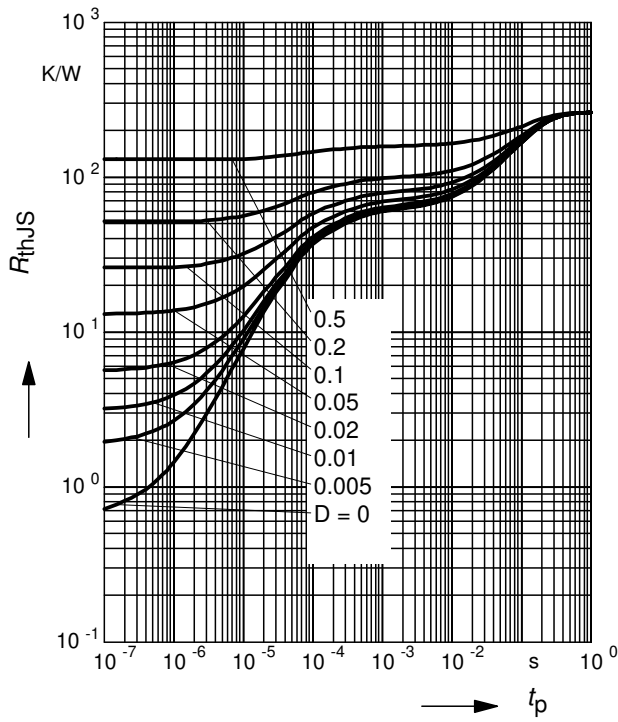
SMBD914/MMBD914

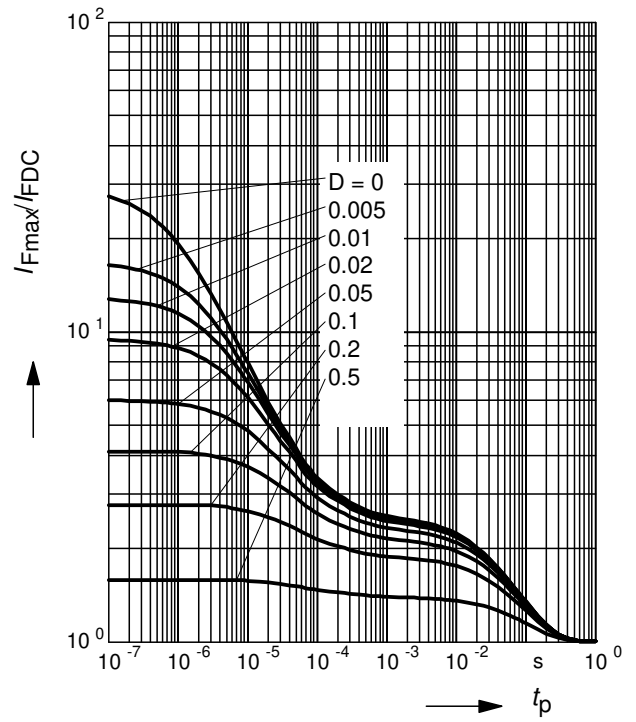3   2007-03-28
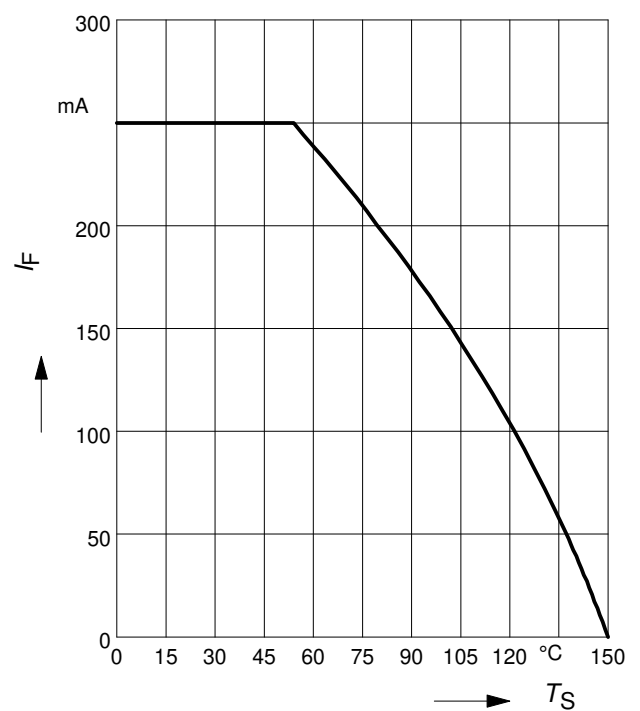
Permissible Puls Load $R_{thJS} = f(t_p)$

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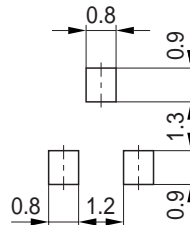
$I_{Fmax}/I_{FDC} = f(t_p)$

4   2007-03-28
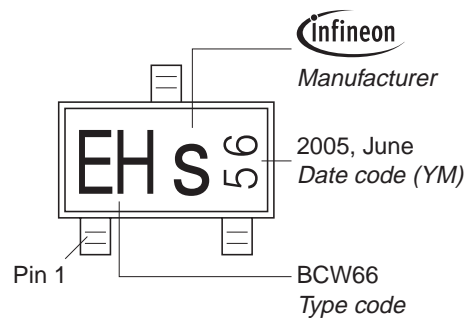
Package Outline

2.9 ±0.1   B

3

1

2

0.4 +0.1 -0.05 1)

C

0.95

1.9

1 ±0.1

0.1 MAX.

0.15 MIN.

2.4 ±0.15

1.3 ±0.1

10° MAX.

10° MAX.

0.08...0.15

0...8°

A

⊕ 0.25 Ⓜ B C

≡ 0.2 Ⓜ A
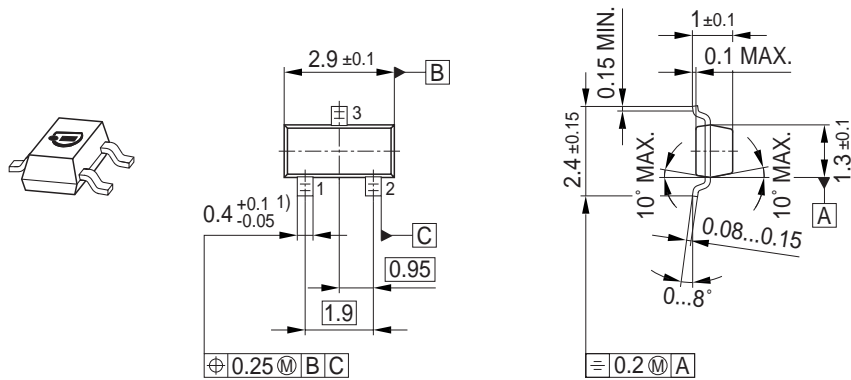
1) Lead width can be 0.6 max. in dambar area

Foot Print

0.8

0.9

1.3

0.8   1.2   0.9

Marking Layout (Example)

Infineon
Manufacturer

EH s 56

2005, June
Date code (YM)

Pin 1

BCW66
Type code

Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel
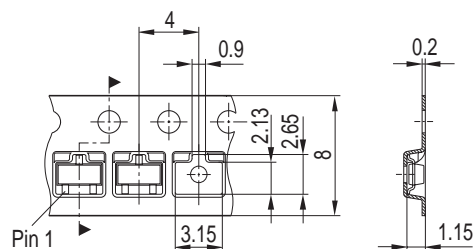
4

0.9

0.2

2.13

2.65

8

Pin 1

3.15

1.15

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Attention please!

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