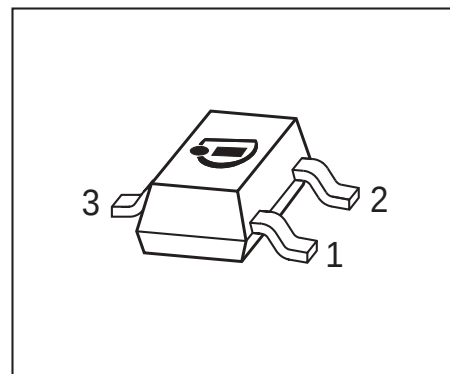


Silicon N-Channel MOSFET Triode

- For high-frequency stages up to 300 MHz preferably in FM applications
- Pb-free (RoHS compliant) package¹⁾
- Qualified according AEC Q101



ESD (Electrostatic discharge) sensitive device, observe handling precaution!

Type	Marking	Pin Configuration						Package
BF999	LBs	1=G	2=D	3=S	-	-	-	SOT23

Maximum Ratings

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	20	V
Continuous drain current	I_D	30	mA
Gate-source peak current	$\pm I_{GSM}$	10	mA
Total power dissipation $T_S \leq 76^\circ\text{C}$	P_{tot}	200	mW
Storage temperature	T_{stg}	-55 ... 150	$^\circ\text{C}$
Channel temperature	T_{ch}	150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Channel - soldering point ²⁾	R_{thchs}	≤ 370	K/W

¹Pb-containing package may be available upon special request

²For calculation of R_{thJA} please refer to Application Note Thermal Resistance

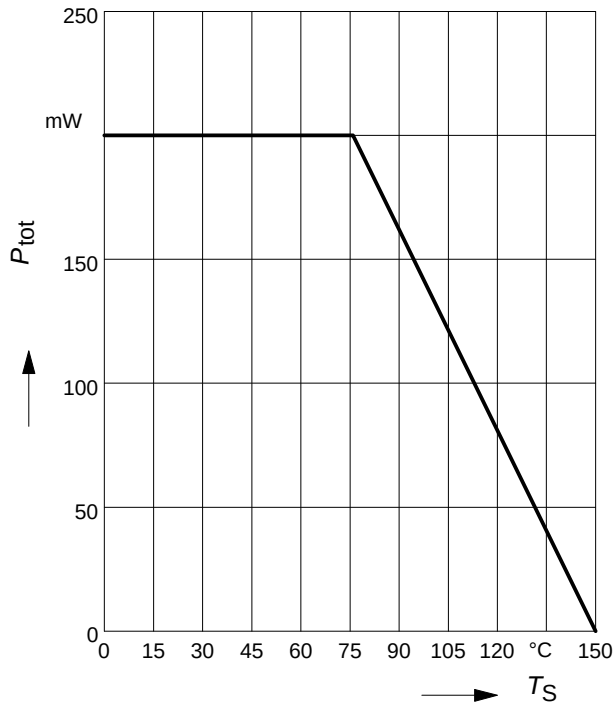
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Drain-source breakdown voltage $I_D = 10\ \mu\text{A}$, $-V_{GS} = 4\ \text{V}$	$V_{(\text{BR})\text{DS}}$	20	-	-	V
Gate-source breakdown voltage $\pm I_{GS} = 10\ \text{mA}$, $V_{DS} = 0$	$\pm V_{(\text{BR})\text{GSS}}$	6.5	-	12	
Gate-source leakage current $\pm V_{GS} = 5\ \text{V}$, $V_{DS} = 0$	$\pm I_{GSS}$	-	-	50	nA
Drain current $V_{DS} = 10\ \text{V}$, $V_{GS} = 0$	I_{DSS}	5	10	16	mA
Gate-source pinch-off voltage $V_{DS} = 10\ \text{V}$, $I_D = 20\ \mu\text{A}$	$-V_{GS(\text{p})}$	-	0.8	1.5	V

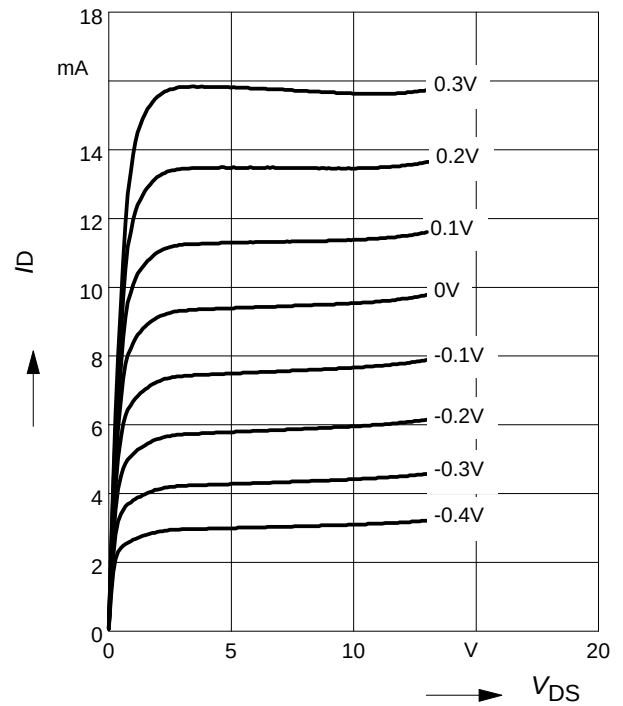
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Forward transconductance $V_{DS} = 10\text{ V}$, $I_D = 10\text{ mA}$	g_{fs}	14	20	-	mS
Gate input capacitance $V_{DS} = 10\text{ V}$, $I_D = 10\text{ mA}$, $f = 10\text{ MHz}$	C_{gss}	-	2.5	-	pF
Output capacitance $V_{DS} = 10\text{ V}$, $I_D = 10\text{ mA}$, $f = 10\text{ MHz}$	C_{dss}	-	0.9	-	pF
Power gain $V_{DS} = 10\text{ V}$, $I_D = 10\text{ mA}$, $f = 45\text{ MHz}$	G_p	-	27	-	dB
Noise figure $V_{DS} = 10\text{ V}$, $I_D = 10\text{ mA}$, $f = 45\text{ MHz}$	F	-	2.1	-	dB

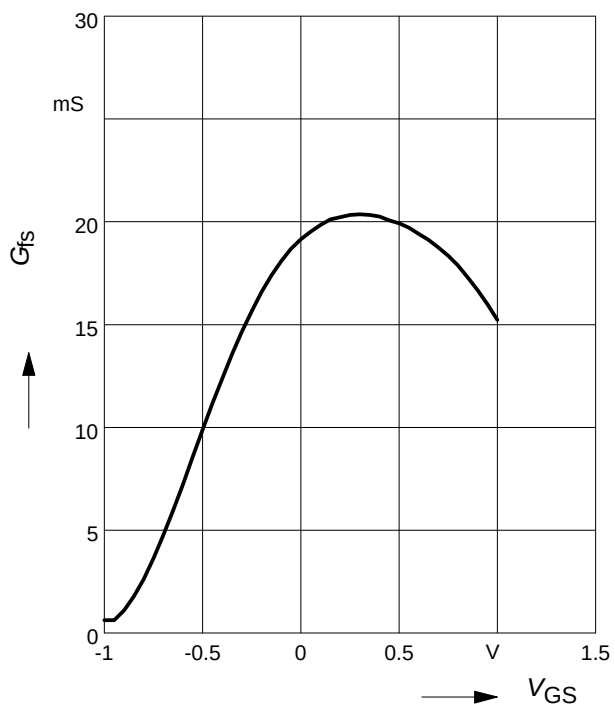
Total power dissipation $P_{\text{tot}} = f(T_S)$



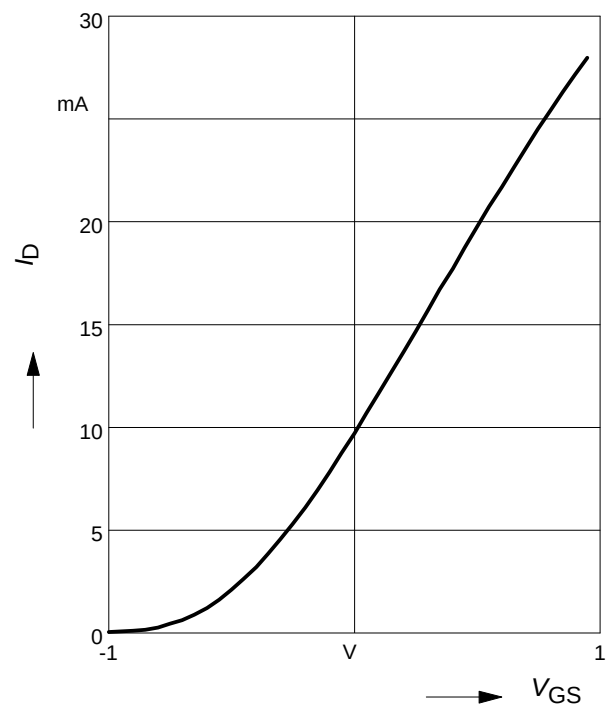
Output characteristics $I_D = f(V_{\text{DS}})$



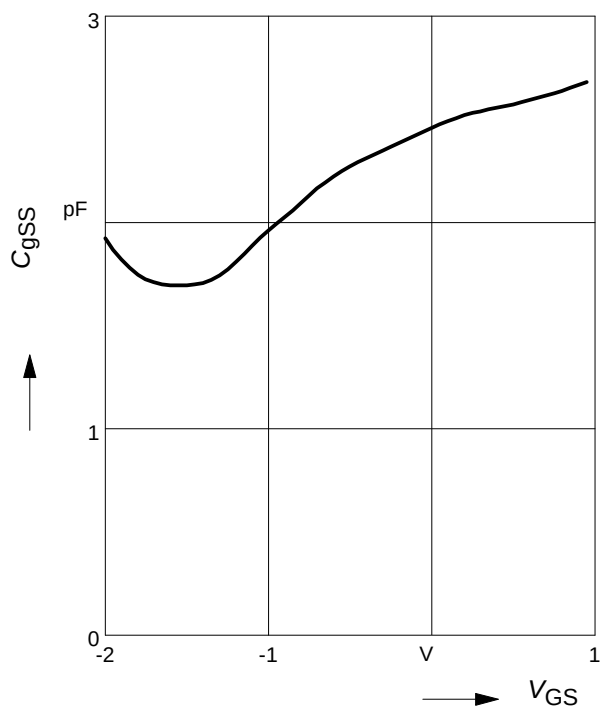
Gate transconductance $g_{\text{fs}} = f(V_{\text{GS}})$



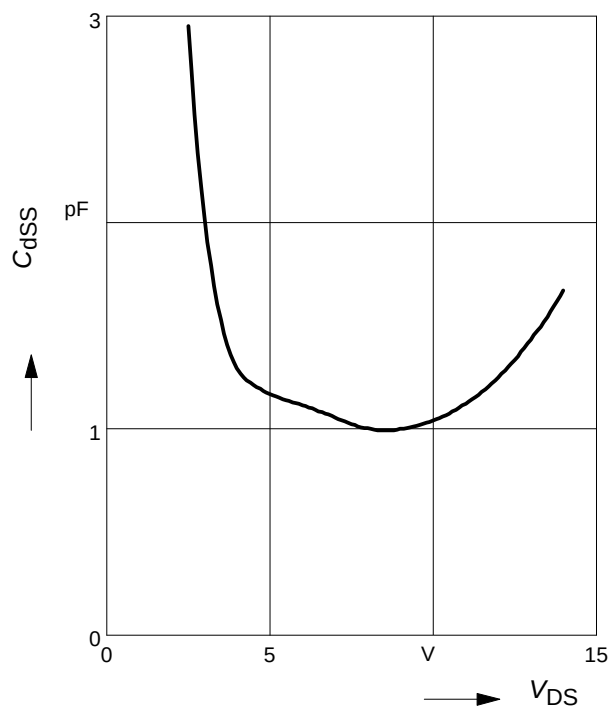
Drain current $I_D = f(V_{\text{GS}})$

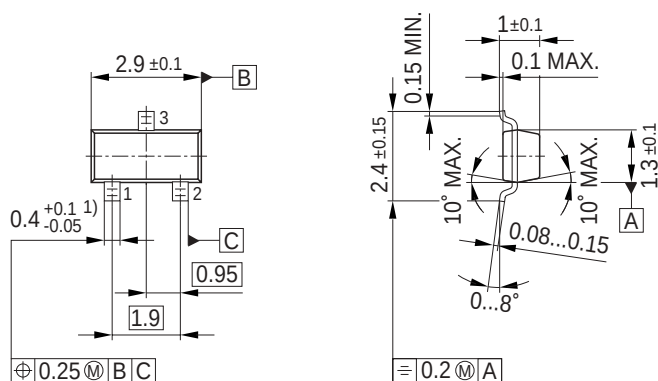


Gate input capacitance $C_{gss} = f(V_{GS})$

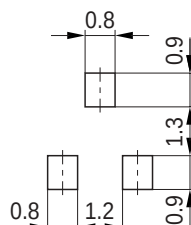


Output capacitance $C_{dss} = f(V_{DS})$



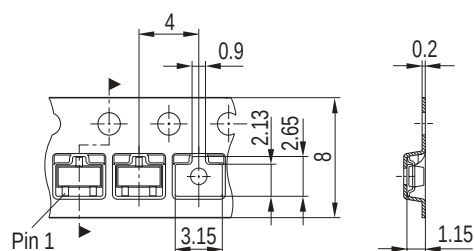


Foot Print



The diagram shows a top-down view of a BCW66 LED package. It is a rectangular component with four pins. The top pin is labeled 'Pin 1'. The package has a central rectangular area containing the text 'EHS' and a date code '05 05'. The Infineon logo is at the top right. Labels with leader lines point to the Infineon logo (Manufacturer), the date code (Date code (YM)), and the BCW66 text (Type code).

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



Edition 2006-02-01

Published by

Infineon Technologies AG

81726 München, Germany

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