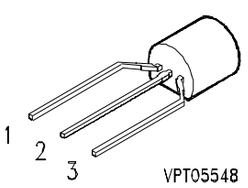
TAVAKOL ELECTRONIC
توکل الکترونیک
مرجع تخصصی تأمین قطعات الکترونیکی اورجینال
این دیتاشیت توسط توکل الکترونیک تهیه و ارائه شده است.
جهت مشاهده قیمت، موجودی و ثبت سفارش این قطعه به وب‌سایت توکل الکترونیک مراجعه فرمایید.
مشاهده قیمت و خرید
برای خرید و مشاهده سایر محصولات کلیک کنید

Infineon technologies

BSS 98

SIPMOS ® Small-Signal Transistor

- N channel
- Enhancement mode
- Logic Level
- $V_{GS(th)}$ = 0.8...1.6 V



Pin 1	Pin 2	Pin 3
S	G	D

Type	V_{DS}	I_D	$R_{DS(on)}$	Package	Marking
BSS 98	50 V	0.3 A	3.5 Ω	TO-92	SS98

Type	Ordering Code	Tape and Reel Information
BSS 98	Q62702-S053	E6288
BSS 98	Q62702-S517	E6296
BSS 98	Q62702-S635	E6325

Maximum Ratings

Parameter	Symbol	Values	Unit
Drain source voltage	V_{DS}	50	V
Drain-gate voltage R_{GS} = 20 kΩ	V_{DGR}	50	
Gate source voltage	V_{GS}	± 20	
ESD Sensitivity as per MIL-STD 883		Class 1	
Continuous drain current T_A = 25 °C	I_D	0.3	A
DC drain current, pulsed T_A = 25 °C	I_{Dpuls}	1.2	
Power dissipation T_A = 25 °C	P_{tot}	0.63	W

Maximum Ratings

Parameter	Symbol	Values	Unit
Chip or operating temperature	T_j	-55 ... + 150	°C
Storage temperature	T_{stg}	-55 ... + 150	
Thermal resistance, chip to ambient air [1)]	R_{thJA}	≤ 200	K/W
DIN humidity category, DIN 40 040		E	
IEC climatic category, DIN IEC 68-1		55 / 150 / 56	

Electrical Characteristics, at T_j = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Static Characteristics					
Drain- source breakdown voltage V_{GS} = 0 V, I_D = 0.25 mA, T_j = 25 °C	$V_{(BR)DSS}$	50	-	-	V
Gate threshold voltage V_{GS}=V_{DS}, I_D = 1 mA	$V_{GS(th)}$	0.8	1.2	1.6	
Zero gate voltage drain current V_{DS} = 50 V, V_{GS} = 0 V, T_j = 25 °C V_{DS} = 50 V, V_{GS} = 0 V, T_j = 125 °C V_{DS} = 30 V, V_{GS} = 0 V, T_j = 25 °C	I_{DSS}	 - - -	 0.05 - -	 0.5 5 100	 µA nA
Gate-source leakage current V_{GS} = 20 V, V_{DS} = 0 V	I_{GSS}	-	10	100	nA
Drain-Source on-state resistance V_{GS} = 10 V, I_D = 0.3 A V_{GS} = 4.5 V, I_D = 0.3 A	$R_{DS(on)}$	 - -	 1.8 2.8	 3.5 6	Ω

Electrical Characteristics, at T_j = 25°C, unless otherwise specified

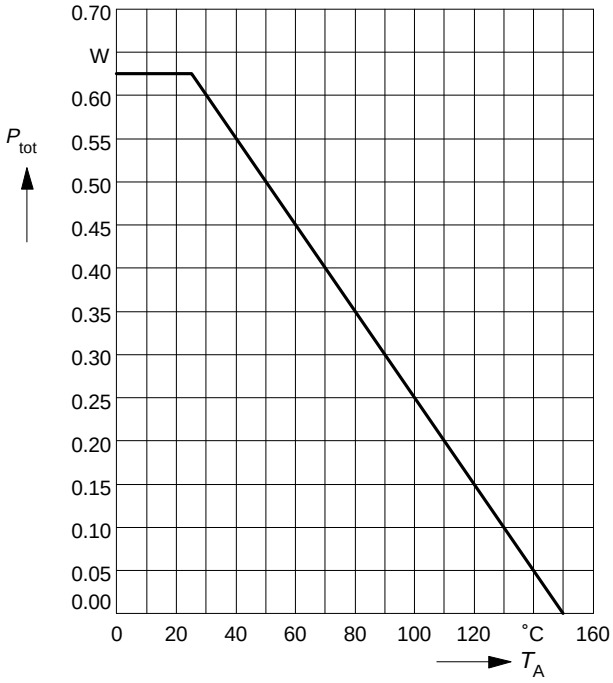
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Dynamic Characteristics					
Transconductance $V_{DS} \geq 2 * I_D * R_{DS(on)max}$, I_D = 0.3 A	g_{fs}	0.12	0.23	-	S
Input capacitance V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{iss}	-	40	55	pF
Output capacitance V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{oss}	-	15	25	
Reverse transfer capacitance V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{rss}	-	5	8	
Turn-on delay time V_{DD} = 30 V, V_{GS} = 10 V, I_D = 0.29 A R_G = 50 Ω	$t_{d(on)}$	-	5	8	ns
Rise time V_{DD} = 30 V, V_{GS} = 10 V, I_D = 0.29 A R_G = 50 Ω	t_r	-	6	9	
Turn-off delay time V_{DD} = 30 V, V_{GS} = 10 V, I_D = 0.29 A R_G = 50 Ω	$t_{d(off)}$	-	12	16	
Fall time V_{DD} = 30 V, V_{GS} = 10 V, I_D = 0.29 A R_G = 50 Ω	t_f	-	15	20	

Electrical Characteristics, at T_j = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Reverse Diode					
Inverse diode continuous forward current T_A = 25 °C	I_S	-	-	0.3	A
Inverse diode direct current,pulsed T_A = 25 °C	I_{SM}	-	-	1.2	
Inverse diode forward voltage V_{GS} = 0 V, I_F = 0.6 A	V_{SD}	-	1	1.4	V

Power dissipation

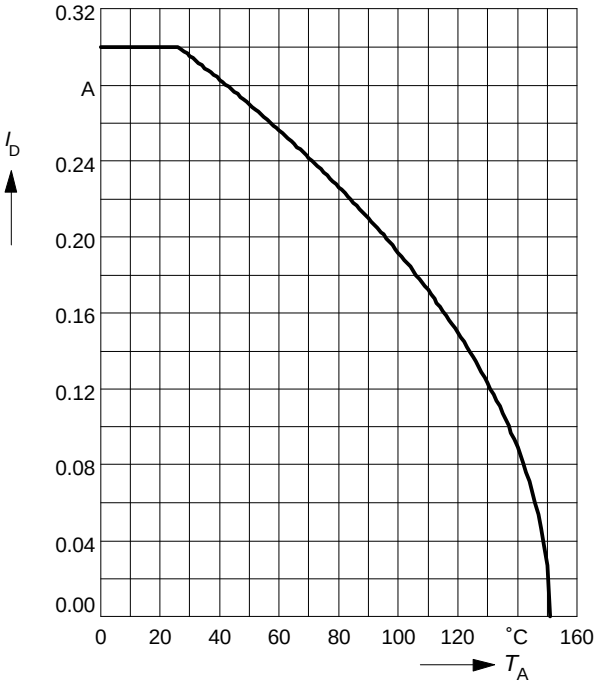
$P_{tot} = f(T_A)$



Drain current

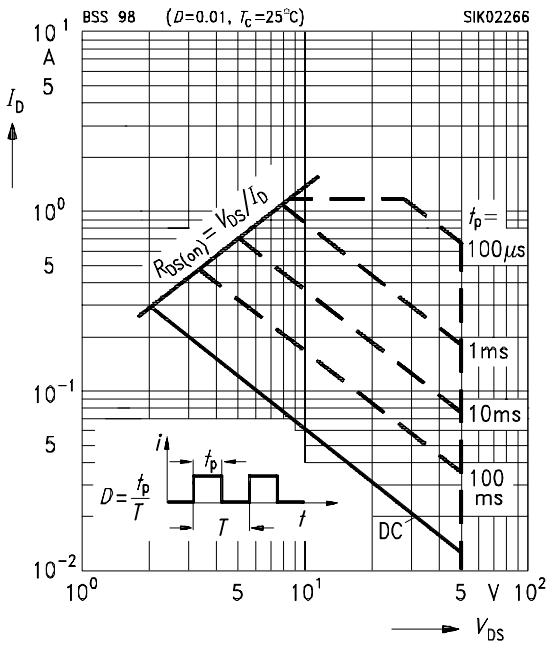
$I_D = f(T_A)$

parameter: $V_{GS} \geq 10$ V



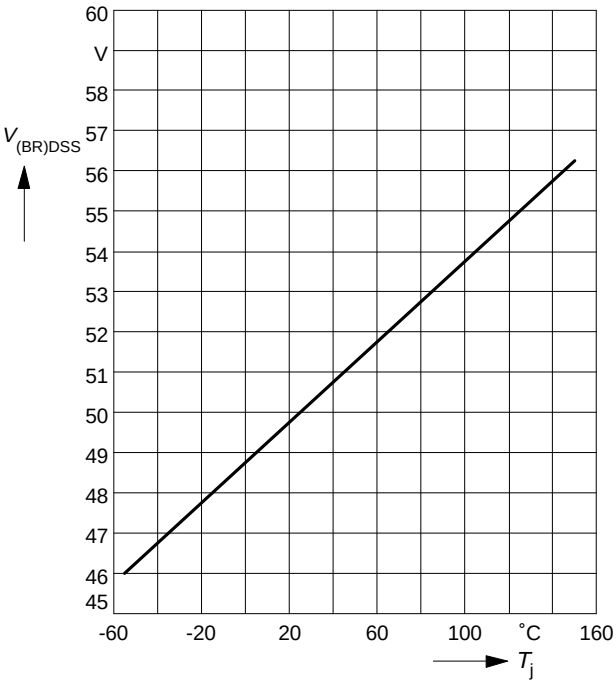
Safe operating area I_D=f(V_{DS})

parameter : D = 0.01, T_C=25°C



Drain-source breakdown voltage

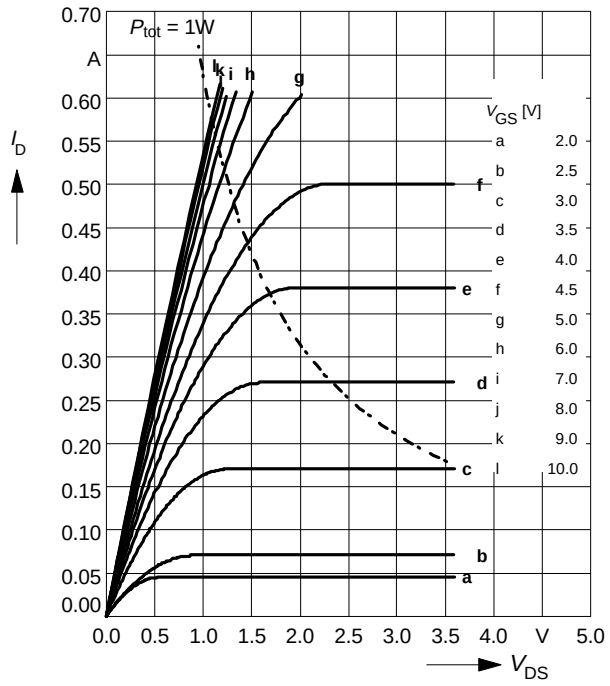
$V_{(BR)DSS} = f(T_j)$



Typ. output characteristics

$I_D = f(V_{DS})$

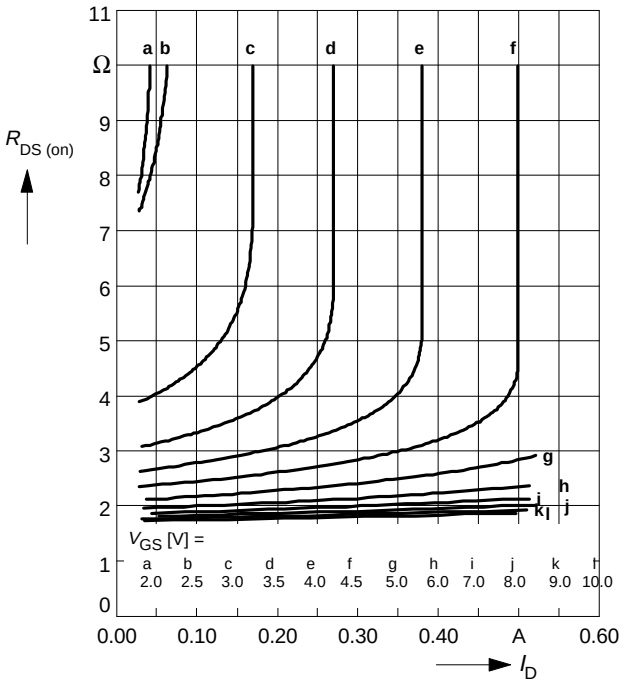
parameter: t_p = 80 µs , T_j = 25 ˚C



Typ. drain-source on-resistance

$R_{DS\ (on)} = f(I_D)$

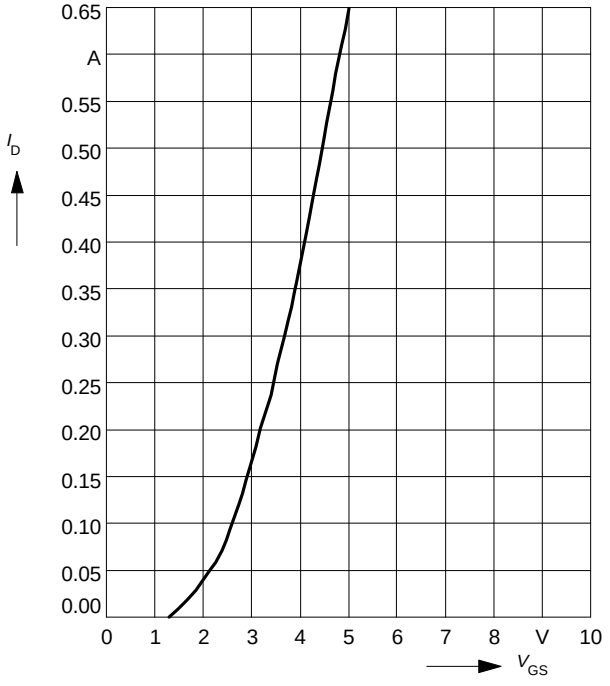
parameter: t_p = 80 µs, T_j = 25 ˚C



Typ. transfer characteristics $I_D = f(V_{GS})$

parameter: t_p = 80 µs

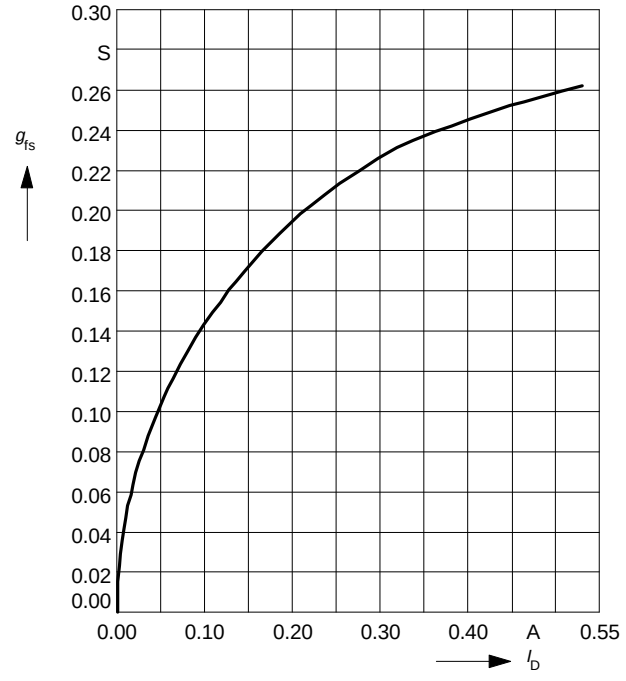
$V_{DS} \geq 2 \times I_D \times R_{DS(on)max}$



Typ. forward transconductance $g_{fs} = f(I_D)$

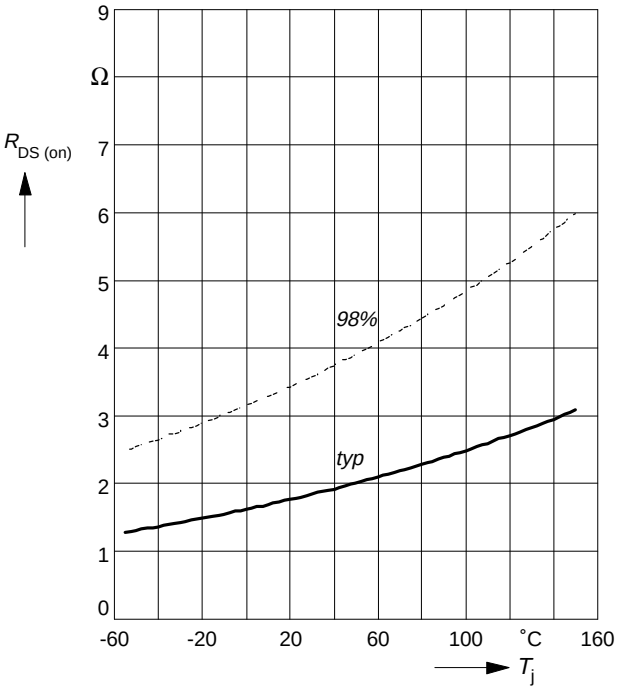
parameter: t_p = 80 µs,

$V_{DS} \geq 2 \times I_D \times R_{DS(on)max}$



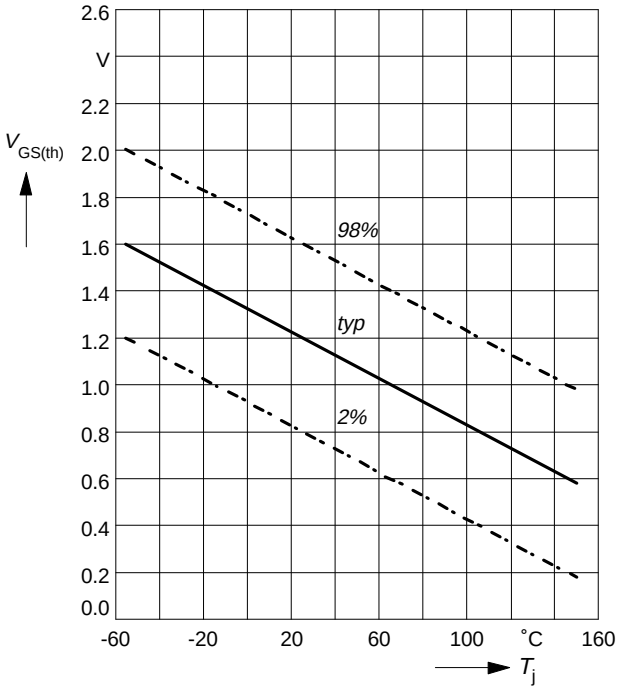
Drain-source on-resistance

$R_{DS\,(on)} = f(T_j)$
parameter: I_D = 0.3 A, V_{GS} = 10 V



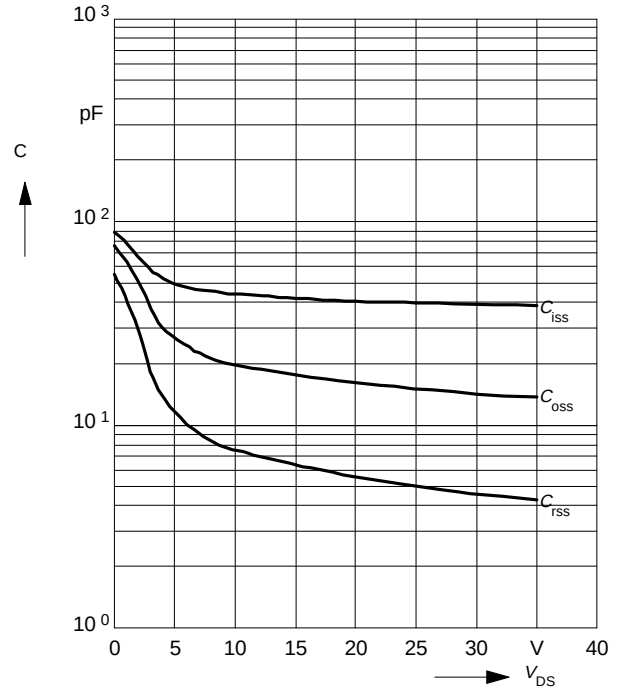
Gate threshold voltage

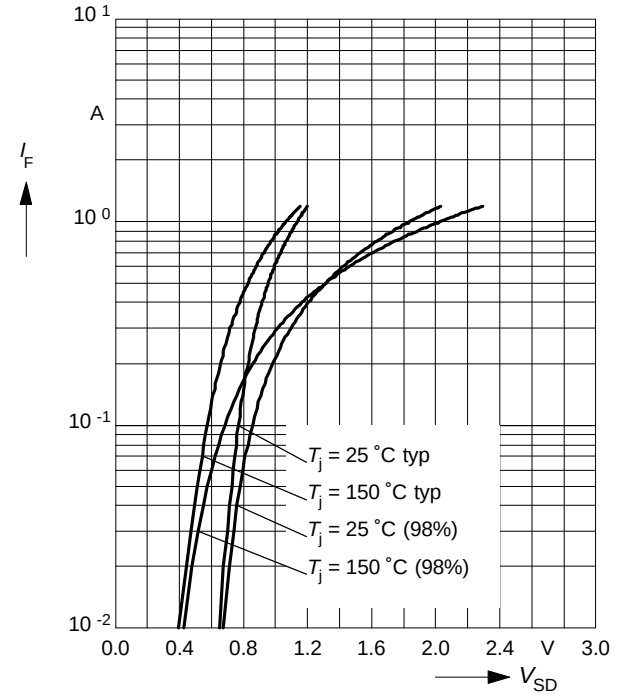
$V_{GS\,(th)} = f(T_j)$
parameter: $V_{GS} = V_{DS}$, I_D = 1 mA



Typ. capacitances

$C = f(V_{DS})$
parameter: V_{GS}=0V, f = 1 MHz



Forward characteristics of reverse diode

$I_F = f(V_{SD})$
parameter: T_j, t_p = 80 µs