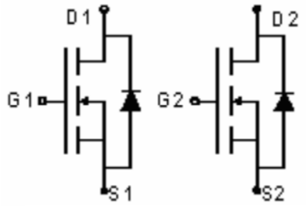
N-Channel Enhancement Mode MOSFET

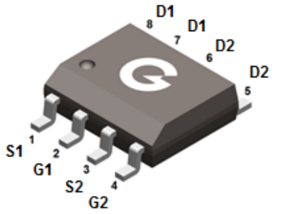
GBLN3304-S8

Features

- Electrostatic Sensitive Devices
- $R_{DS(ON)} < 28m\Omega$ @ $V_{GS} = 10V$
- $R_{DS(ON)} < 35m\Omega$ @ $V_{GS} = 4.5V$

HF





SOP-8

Mechanical Data

- Case: SOP-8
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
GBLN3304-S8	SOP-8	4000 pcs / Tape & Reel	GBLN3304

Maximum Ratings (@ $T_A = 25°C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DSS}	30	V
Gate-to-Source Voltage	V_{GSS}	±20	V
Continuous Drain Current ($T_A = 25°C$)	I_D	6.3	A
Continuous Drain Current ($T_A = 70°C$)		5	A
Pulsed Drain Current	I_{DM}	25	A

Thermal Characteristics (@ $T_A = 25°C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Power Dissipation *1	P_D	2	W
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	62.5	°C/W
Operating Junction Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Note

1: Surface−mounted on 1 inch² FR4 board, 2 oz Cu. The value in any given application depends on the user's specific board design.

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
V_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0V, I_D = 250μA	30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 24V, V_{GS} = 0V	-	-	1	μA
I_{GSS}	Gate-Body Leakage Current	V_{GS} = ±20V, V_{DS} = 0V	-	-	±100	nA
On Characteristics						
$R_{DS(ON)}$	Static Drain-Source On-resistance	V_{GS} = 10V, I_D = 5.8A	-	22	28	mΩ
		V_{GS} = 4.5V, I_D = 4.8A	-	30	35	
$V_{GS(TH)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250μA	1.2	1.6	2.6	V
g_{FS}	Forward Transconductance	V_{DS} = 5V, I_D = 5.8A	-	22	-	S
Dynamic Characteristics						
C_{ISS}	Input Capacitance	V_{GS} = 0V V_{DS} = 15V f = 1.0MHz	-	515	-	pF
C_{OSS}	Output Capacitance		-	76	-	
C_{RSS}	Reverse Transfer Capacitance		-	65	-	
Q_G	Total Gate-Charge	V_{GS} = 10V V_{DS} = 15V I_D = 5.8A	-	14.4	-	nC
Q_{GS}	Gate to Source Charge		-	2.4	-	
Q_{GD}	Gate to Drain (Miller) Charge		-	2.6	-	
$t_{d(ON)}$	Turn-on Delay Time	V_{GS} = 10V V_{DD} = 15V R_L = 2.6Ω R_G = 3Ω	-	4.5	6.5	ns
t_r	Turn-on Rise Time		-	2.4	-	
$t_{d(OFF)}$	Turn-Off Delay Time		-	14.8	-	
t_f	Turn-Off Fall Time		-	2.5	-	
Source-Drain Diode Characteristics						
V_{SD}	Diode Forward Voltage	I_S = 1A, V_{GS} = 0 V	-	0.75	1.0	V
I_S	Maximum Body-Diode Continuous Current		-	-	2.5	A

Ratings and Characteristics Curves (@ T_A = 25°C unless otherwise specified)

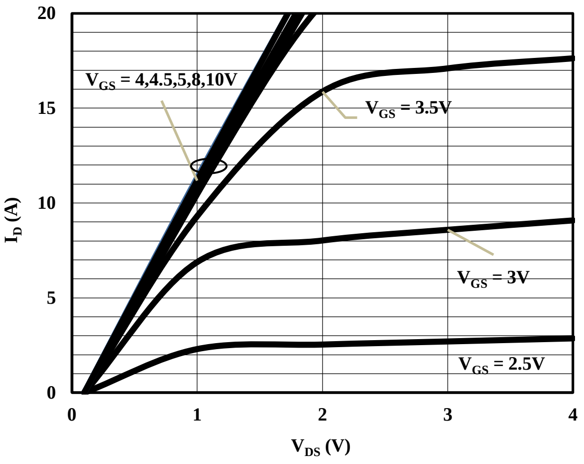


Fig 1 On-Region Characteristics

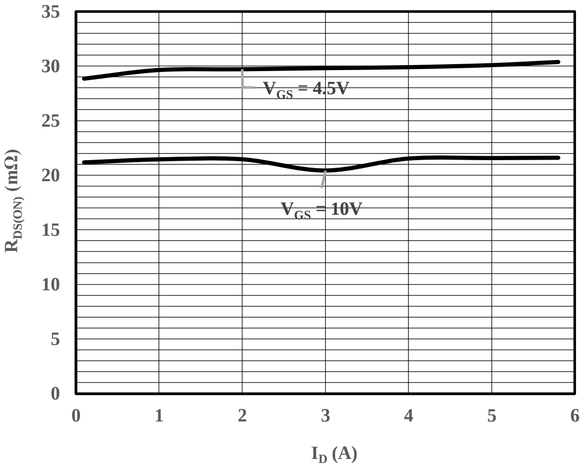


Fig 2 On-Resistance vs. Drain Current and Gate Voltage

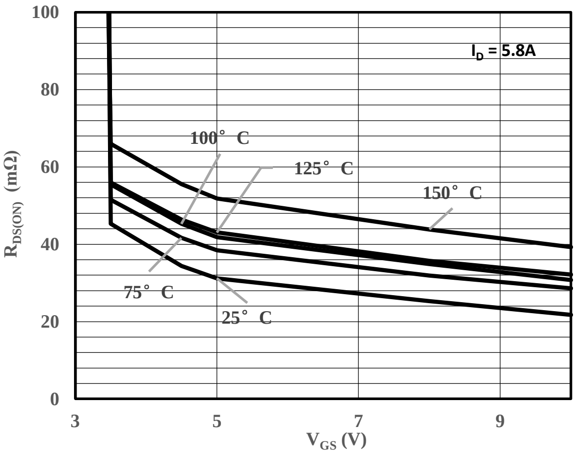


Fig 3 On-Resistance vs. Gate-Source Voltage

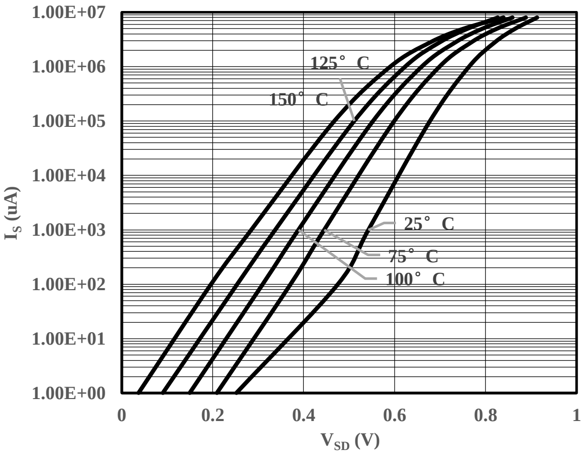


Fig 4 Body-Diode Characteristics

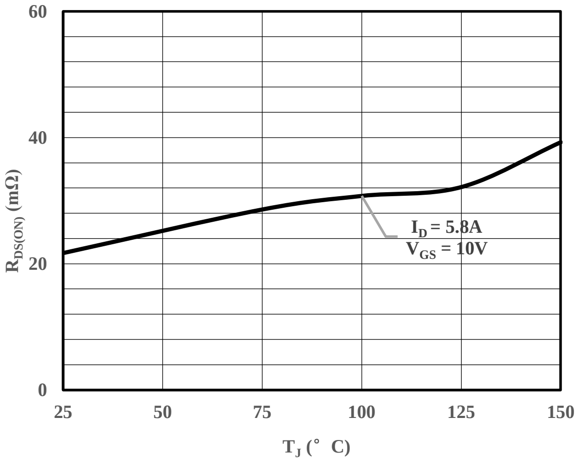


Fig 5 On-Resistance vs. Junction Temperature

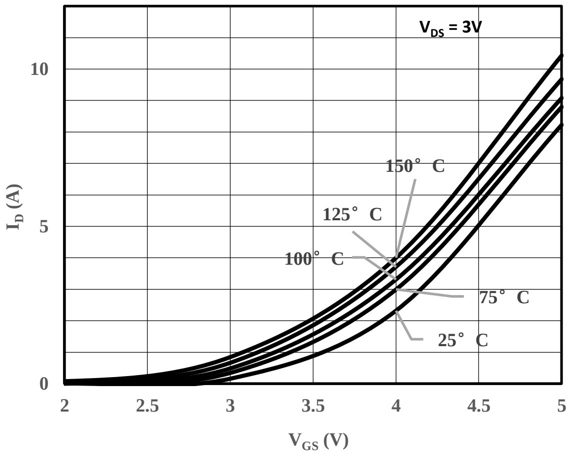


Fig 6 Transfer Characteristics

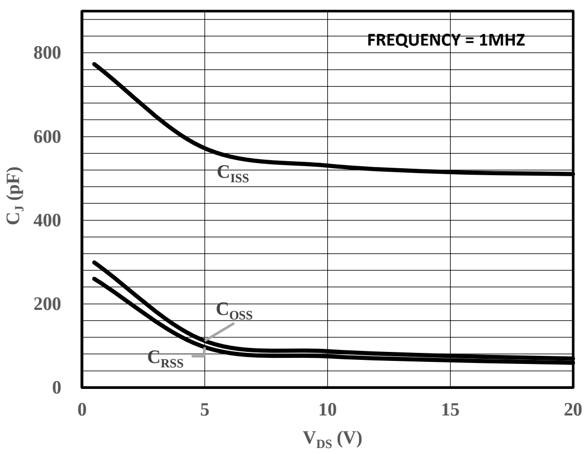


Fig 7 Capacitance Characteristics

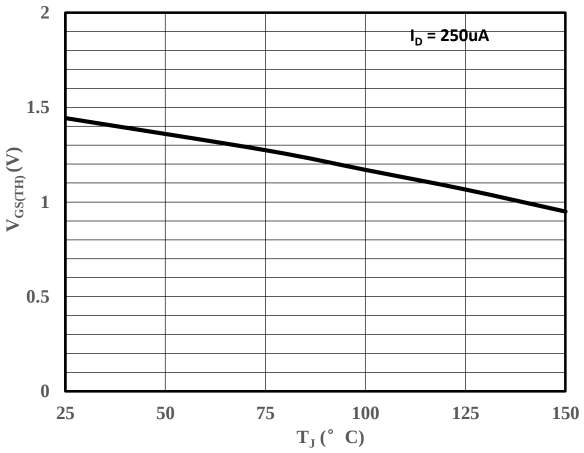


Fig 8 Gate Voltage vs. Junction Temperature

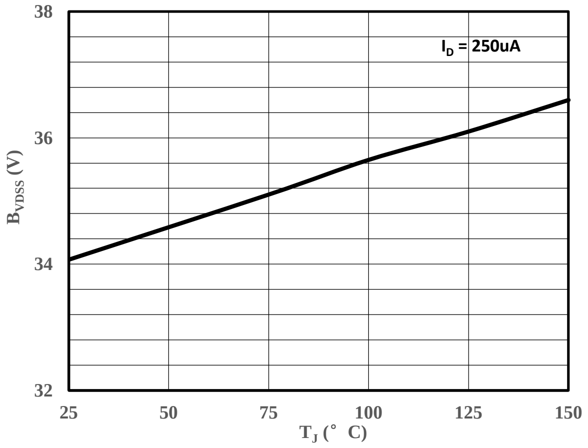
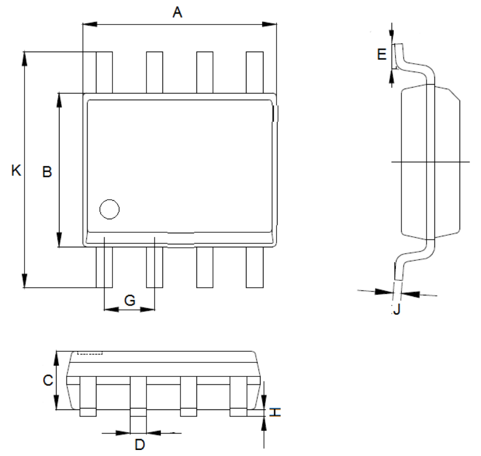


Fig 9 Drain-Source vs. Junction Temperature

Package Outline Dimensions (Unit: mm)



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Dimension	**Min.**	**Max.**
A	4.70	5.10
B	3.8	4.0
C	1.35	1.55
D	0.33	0.51
E	0.40	1.27
G	1.17	1.37
H	0.10	0.25
J	0.10	0.30
K	5.80	6.20

Mounting Pad Layout (Unit: mm)

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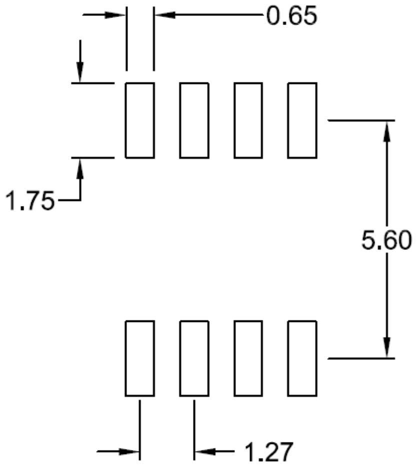

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