

### Feature

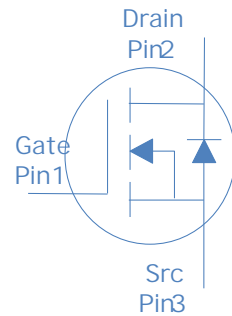
- " High Speed Power Switching, Logic level
- " Enhanced Body diode dv/dt capability
- " Enhanced Avalanche Ruggedness
- " 100% UIS Tested 100% Rg Tested
- " Lead Free, Halogen Free

$V_{DS}$		60	V
R	$V_{GS}=10V$	7.5	m
R	$V_{GS}=4.5V$	10.2	m
$I_D$		14	A

### Application

- " Synchronous Rectification in SMPS
- " Hard Switching and High Speed Circuit
- " DC/DCn Telecoms and Industrial

SOIC8



Part Number	Package	Marking
HGS090N06SL	SOIC-8	GS090N06SL

### Absolute Maximum Ratings at T

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	$I_D$	$T_C$	14	A
		$T_C$	8.8	
Drain to Source Voltage	$V_{DS}$	-	60	V
Gate to Source Voltage	$V_{GS}$	-	-20	V
Pulsed Drain Current	$I_{DM}$	-	56	A
		$A_S$	$L=0.4mH, T_C$	
	$P_D$	$T_C$	3.1	
	$T, T_{stg}$	-	-55 to 150	

### Absolute Maximum Ratings

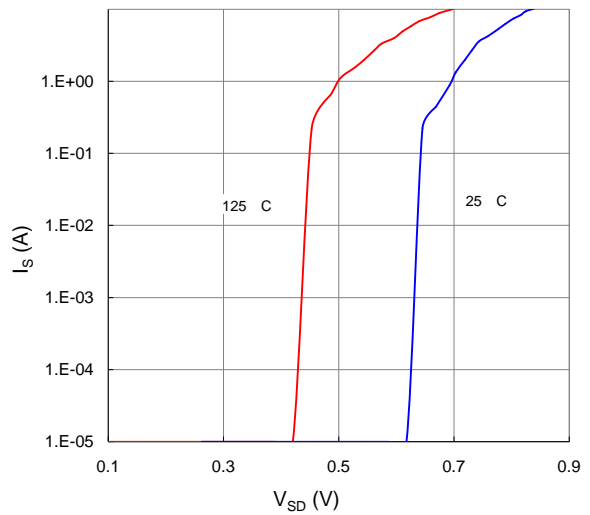
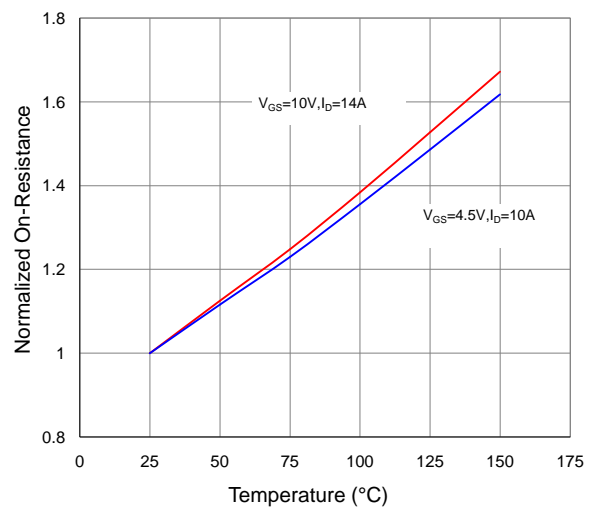
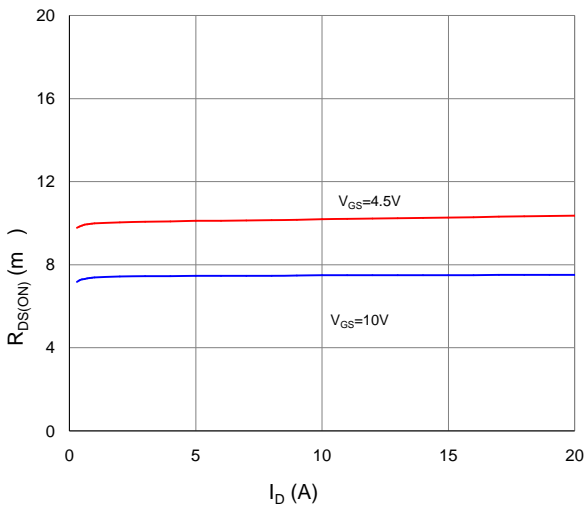
Parameter	Symbol	Max	Unit
	R	25	
	R	40	
		75	

J

Parameter	Symbol	Conditions	Value			Unit
			min		max	
	$V_{(BR)DSS}$	$V_{GS}=0V, I_b=250A$	60	-	-	V
	V	$V_{GS}=V_{DS}, I_D=250A$	1.0	1.8	2.4	
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{GS}=0V, V_{DS}=60V, T_j$	-	-	1	A
		$V_{GS}=0V, V_{DS}=60V, T_j$	-	-	100	
Gate to Source Leakage Current	$I_{GSS}$	$V_{GS}=-20V, V_{DS}=0V$	-	-	-100	nA
Drain to Source on Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_b=14A$	-	7.5	9	m
		$V_{GS}=4.5V, I_b=10A$	-	10.2	13	
Transconductance	g	$V_{DS}=5V, I_b=14A$	-	26	-	S
Gate Resistance	$R_G$	$V_{GS}=0V, V_{DS}$	-	1.5	-	

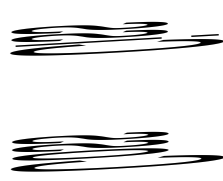
	$C_{iss}$	$V_{GS}=0V, V_{DS}$	-	1620	-	
	$C_{oss}$		-	415	-	
	$C_{rSS}$		-	3	-	
	$Q_g(10V)$	$V_{DD}=30V, I_b=14A, V_{GS}=10V$	-	24	-	nC
	$Q_g(4.5V)$		-	12	-	
	$Q_{gs}$		-	4.8	-	
	$Q_{gd}$		-	3.0	-	
Turn on Delay Time	$t_{d(on)}$	$V_{DD}=30V, I_b=14A, V_{GS}=10V, R_G=10 \Omega$	-	9	-	ns
Rise time	$t_r$		-	4	-	
	t		-	29	-	
	t		-	4	-	

Reverse Recovery Time	$V_{SD}$	$V_{GS}=0V, I=14A$	-	0.9	1.2	V
	$t_{rr}$	$V_R=30V, I=14A, dl$	-	30	-	ns
	$Q_{rr}$		-	43	-	nC





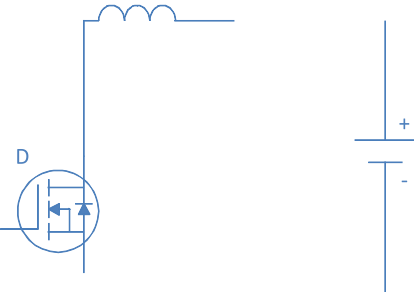
H

V (S) V	(nC)	DS(V) 



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 <p>The diagram shows a circuit for diode recovery testing. It consists of a DC voltage source on the right, represented by two parallel lines with a '+' sign on top and a '-' sign on bottom. A diode, labeled 'D', is connected in series with the source. The diode symbol has its cathode towards the source and its anode towards the inductor. An inductor, represented by a series of three loops, is connected in series with the diode. The circuit is completed by a wire connecting the bottom of the inductor back to the negative terminal of the DC source.</p>	
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Diode Recovery Test	

Packaging line

SOIC-8, 8 leads