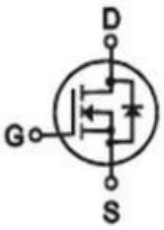
30V N-Channel MOSFET

● General Description

The LH95N03 combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$.



V_{DS}=30V

$R_{DS(ON)}$=3.0mΩ

I_D=95A

TO-252

■ RoHS COMPLIANT

● Features

■Advance high cell density Trench technology
■Low $R_{DS(ON)}$ to minimize conductive loss
■Low Gate Charge for fast switching
■Low Thermal resistance

●Application

■PD Fast Charging
■Lighting
■POL application
■BLDC Motor driver

●Ordering Information:

Part number	LH95N03
Packing	TO-252
Basic ordering unit (pcs)	2500
Normal Package Material Ordering Code	LH95N03T5-TO-252-TAP
Halogen Free Ordering Code	LH95N03T5-TO-252-TAP-HF

●Absolute Maximum Ratings (T_C =25℃)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	20	V
Continuous Drain Current(TC=25℃)	I_D	95	A
Pulsed Drain Current[1]	I_{DM}	220	A
Total Power Dissipation(TC=25℃)	P_D@TC=25℃	70	W
Total Power Dissipation(TA=25℃)	P_D@TA=25℃	2.8	
Avalanche Current	I_{AS}	60	A
Single Pulse Avalanche Energy	E_{AS}	350	mJ
Operating Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55-150	℃

●Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} =0V,I_D =250uA	30	--	--	V
Gate Threshold Voltage	$V_{GS(TH)}$	V_{GS} =V_{DS}, I_D =250uA	1.0	--	2.5	V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=30V, V_{GS} =0V	--	--	1.0	μA
Gate- Source Leakage Current	I_{GSS}	V_{GS}=±20V ,V_{DS} =0V	--	--	±100	nA
Static Drain-source On Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=40A	--	3.0	3.7	mΩ
		V_{GS}=4.5V, I_D=20A	--	4.6	5.5	
Forward Transconductance	gfs	V_{DS} =25V, I_D=10A	--	30	--	S
Gate Resistance	Rg	V_{DS} =10V, I_D=10A	--	5.5	--	Ω

●Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	Ciss	f = 1MHz	--	2000	--	pF
Output capacitance	Coss		--	420	--	
Reverse transfer capacitance	Crss		--	280	--	
Total Gate Charge	Qg	VDD =25V ID = 8A VGS = 10V	--	39	--	nC
Gate-to-Source Charge	Qgs		--	3.6	--	
Gate-to-Drain Charge	Qgd		--	16	--	

● Thermal Characteristics

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-case	Rth_{JC}	2.1	°C/W
Thermal Resistance Junction-ambient	Rth_{JA}	62.5	°C/W
Soldering temperature, wave soldering for 10s	T_{sold}	265	°C

Notes:

1.Pulse Test : Pulse width ≤ 300μs, Duty cycle ≤ 2% ;

● Typical Characteristics

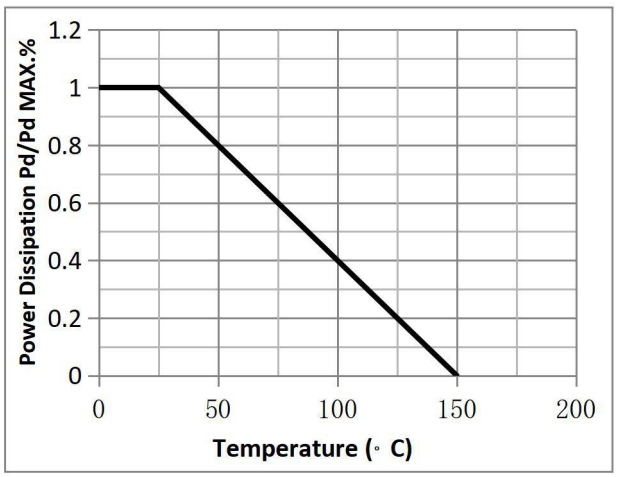


Fig.1 Power Dissipation

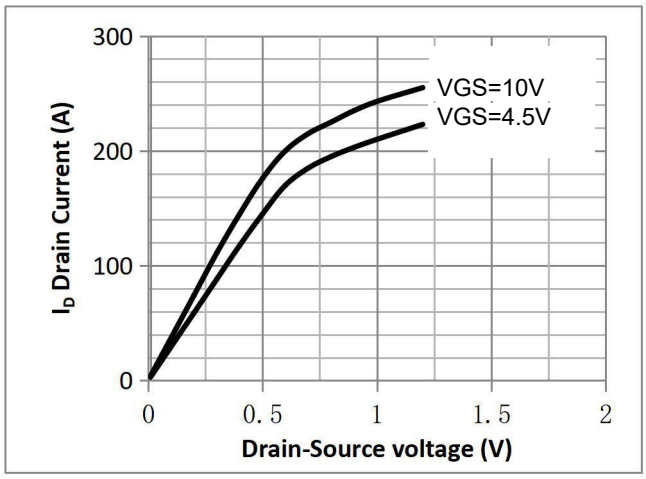


Fig.2 Typical output Characteristics

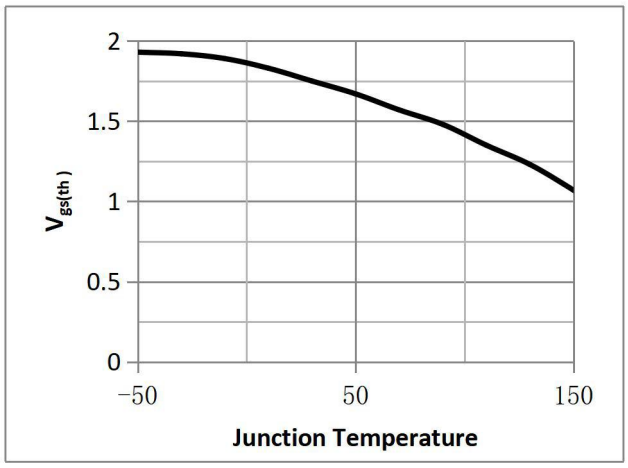


Fig.3 Threshold Voltage V.S Junction Temperature

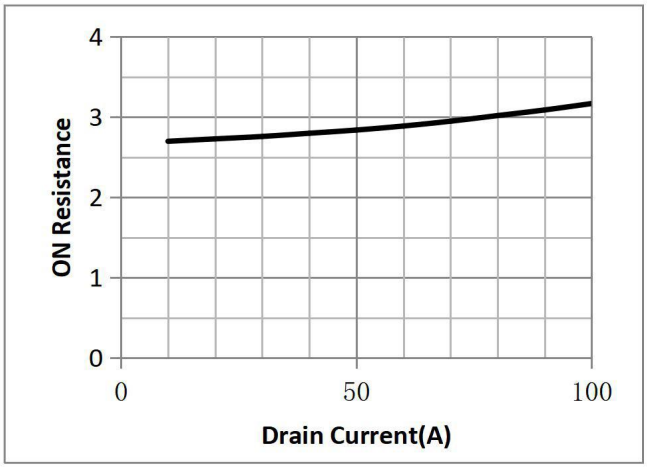


Fig.4 Resistance V.S Drain Current

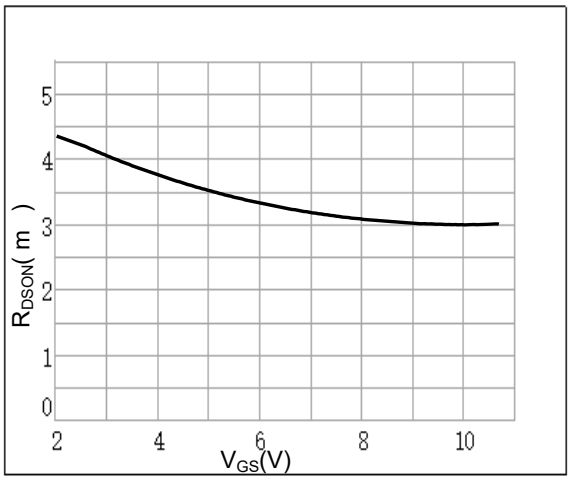


Fig.5 On-Resistance VS Gate Source Voltage

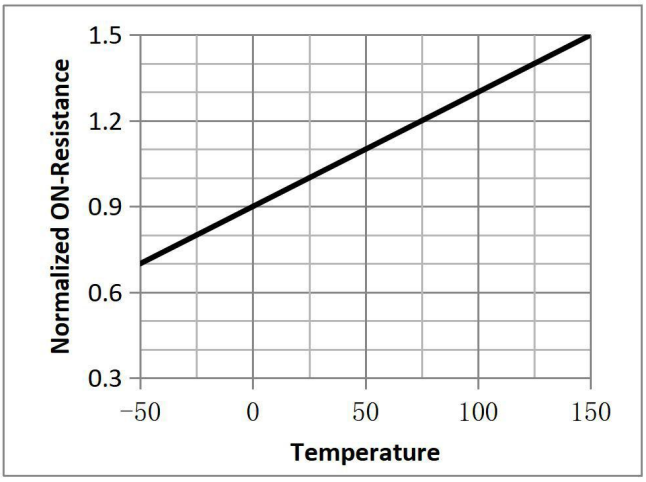


Fig.6 On-Resistance V.S Junction Temperature

● Typical Characteristics(cont.)

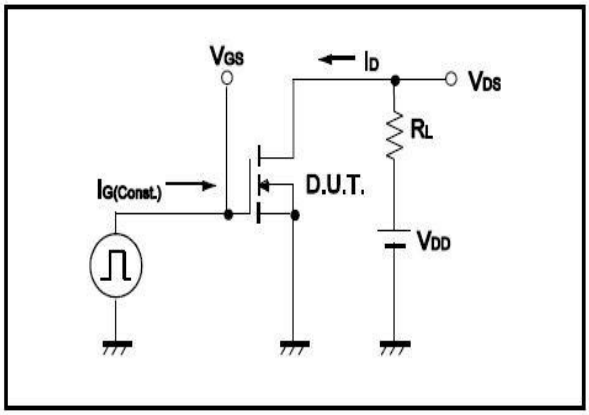


Fig.7 Switching Time Measurement Circuit

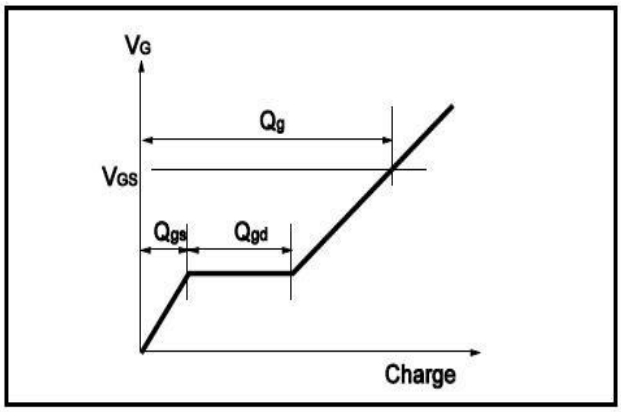


Fig.8 Gate Charge Waveform

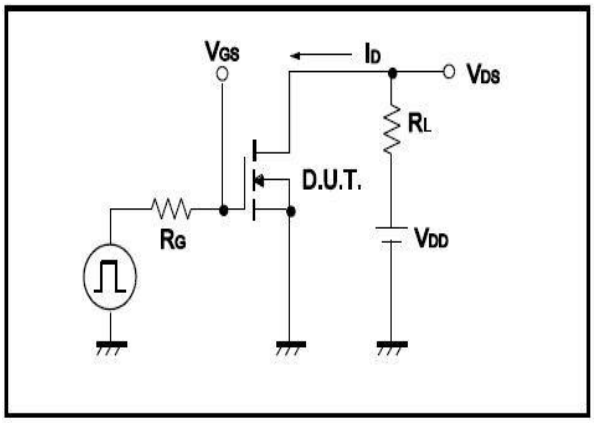


Fig.9 Switching Time Measurement Circuit

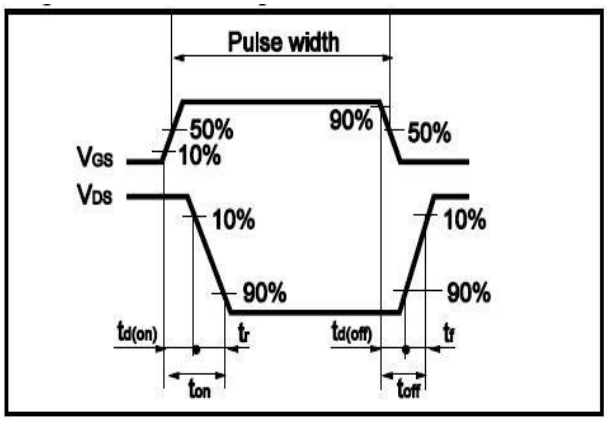


Fig.10 Gate Charge Waveform

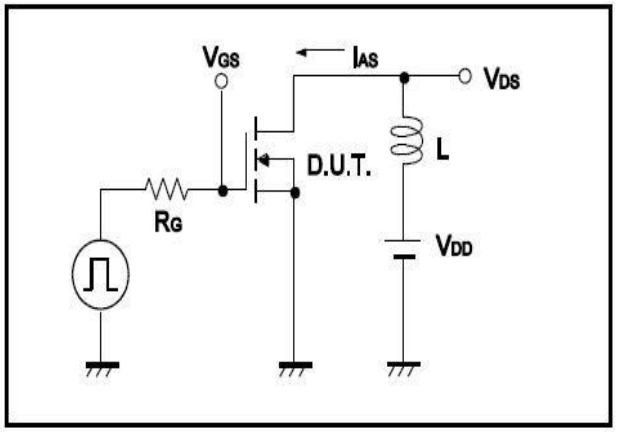


Fig.11 Avalanche Measurement Circuit

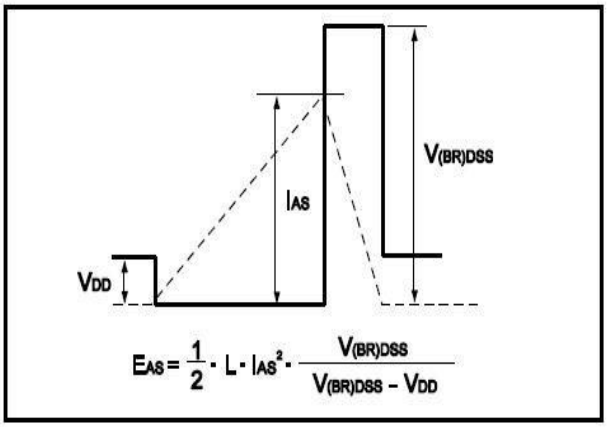


Fig.12 Avalanche Waveform

●Dimensions (TO-252)

Unit：mm

SYMBOL	min	max	SYMBOL	min	max
A	2.10	2.50	L2	0.60	1.20
b	0.50	0.90	L3	1.20	1.80
b1	0.70	1.20	B	0.80	1.30
b2	0.40	0.70	C	0.40	0.70
D	6.20	6.80	D1	5.10	5.60
E	5.80	6.40	e1	2.10	2.45
L	3.60	4.60	e2	4.40	4.80
L1	0.80	1.60