

● General Description

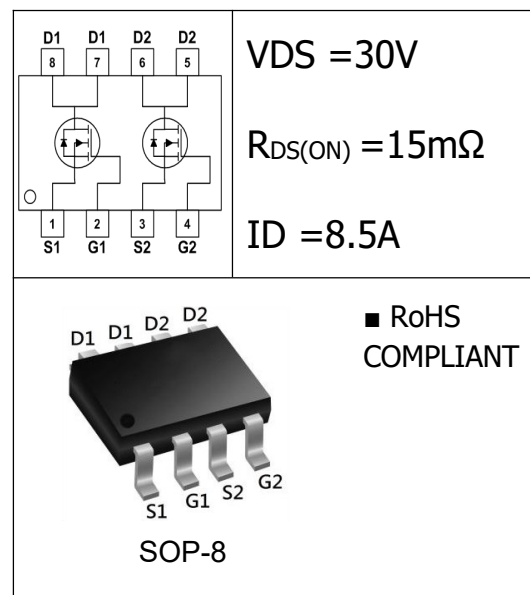
The LH4822 combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$. This device is ideal for load switch and battery protection applications.

● Features

- Dual N-Channel
- Low $R_{DS(ON)}$ to minimize conductive loss
- Low Gate Charge for fast switching
- Low Thermal resistance

● Application

- PD Fast Charging
- BLDC Motor driver
- Household appliance



● Ordering Information:

Part number	LH4822
Package	SOP-8
Basic ordering unit (pcs)	4000
Normal Package Material Ordering Code	LH4822S-SOP8-TAP
Halogen Free Ordering Code	LH4822S-SOP8-TAP-HF

● Absolute Maximum Ratings ($T_C = 25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current $T_C = 25^\circ\text{C}$	I_D	8.5	A
Drain Current — Pulsed ¹	I_{DM}	37	A
Total Power Dissipation ²	P_D	22	W
Total Power Dissipation($T_A = 25^\circ\text{C}$)	$P_D @ T_A = 25^\circ\text{C}$	1.5	
Operating Junction Temperature	T_J	-55 to 150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to 150	$^\circ\text{C}$
Single Pulse Avalanche Energy	E_{AS}	22.1	mJ

●Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	1.2		2.5	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=24V, V_{GS}=0V, T_J=25^\circ C$			1.0	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$			± 100	nA
Static Drain-source On Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=7A$		15	18	m Ω
		$V_{GS}=4.5V, I_D=4A$		22	28	
Transconductance	gfs	$V_{DS}=5V, I_D=7A$		6		S

●Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	C_{iss}	$V_{DS}=15V, V_{GS}=0V$ $f=1MHz$		572		pF
Output capacitance	C_{oss}			80		
Reverse transfer capacitance	C_{rss}			65		
Total Gate Charge	Q_g	$V_{DS}=15V, V_{GS}=4.5V$ $I_D=7A$		6		nC
Gate-to-Source Charge	Q_{gs}			2.5		
Gate-to-Drain Charge	Q_{gd}			2.1		

●Thermal resistance

Parameter	Symbol	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	25	$^\circ C/W$
Thermal resistance, junction - ambient	R_{thJA}	85	$^\circ C/W$
Soldering temperature, wavesoldering for 10s	T_{sold}	265	$^\circ C$

Notes:

- 1.Pulse Test : Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$.
- 2.Device mounted on FR-4 substrate PC board, 2oz copper, with thermal bias to bottom layer 1inch square copper plate.

Typical Characteristics

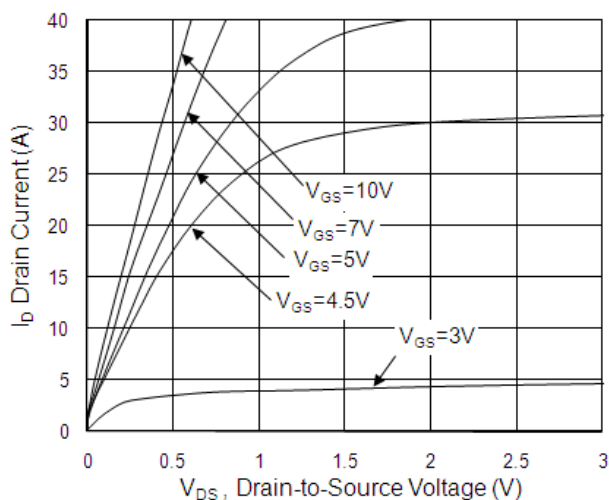


Fig.1 Typical Output Characteristics

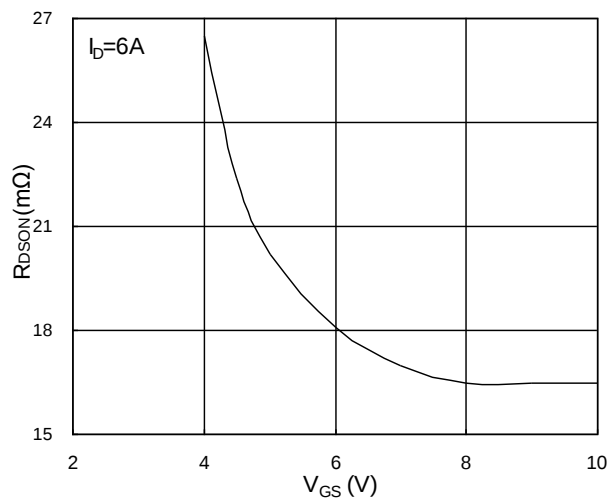


Fig.2 On-Resistance vs. G-S Voltage

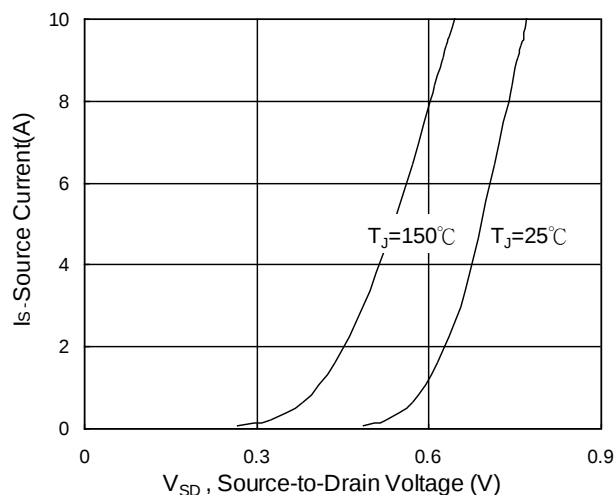


Fig.3 Forward Characteristics Of Reverse

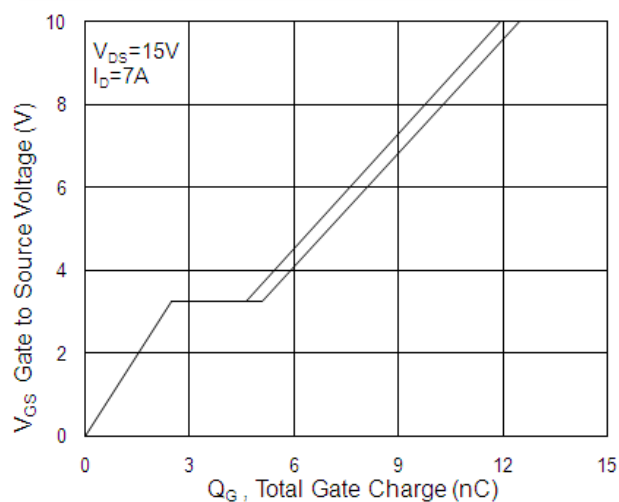


Fig.4 Gate-Charge Characteristics

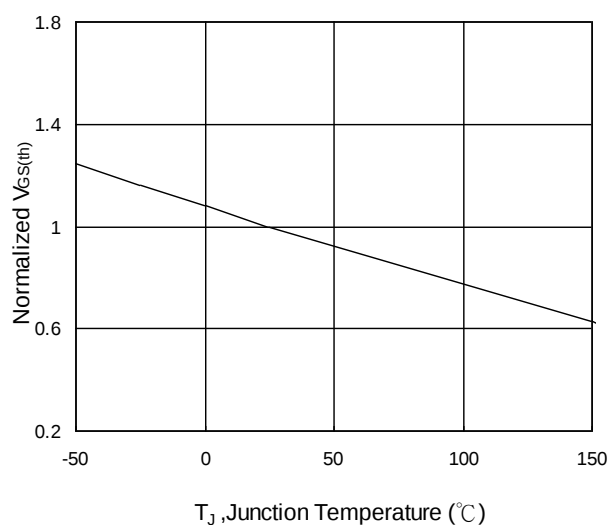


Fig.5 Normalized $V_{GS(th)}$ vs. T_J

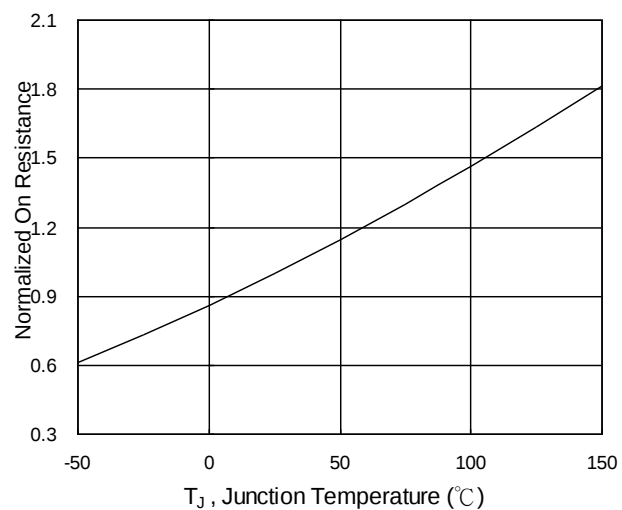
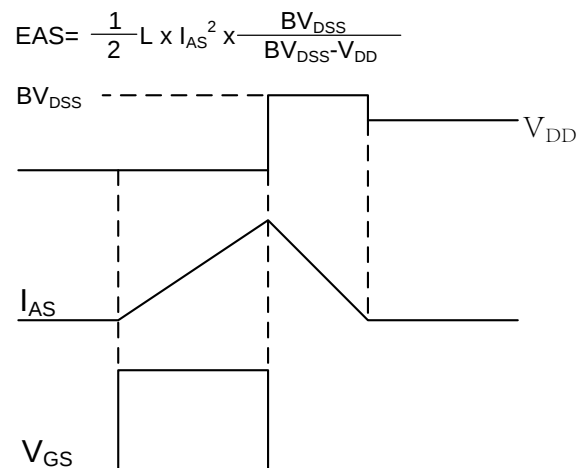
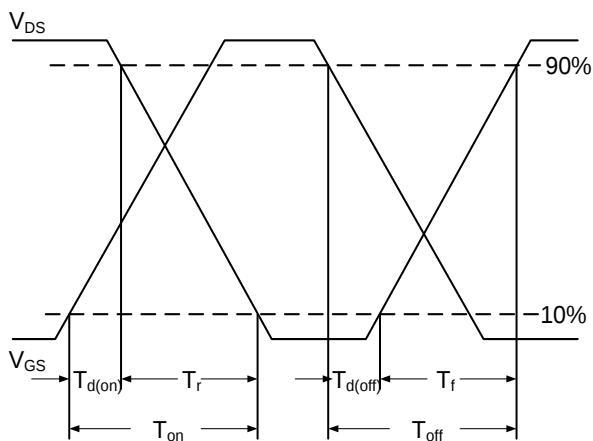
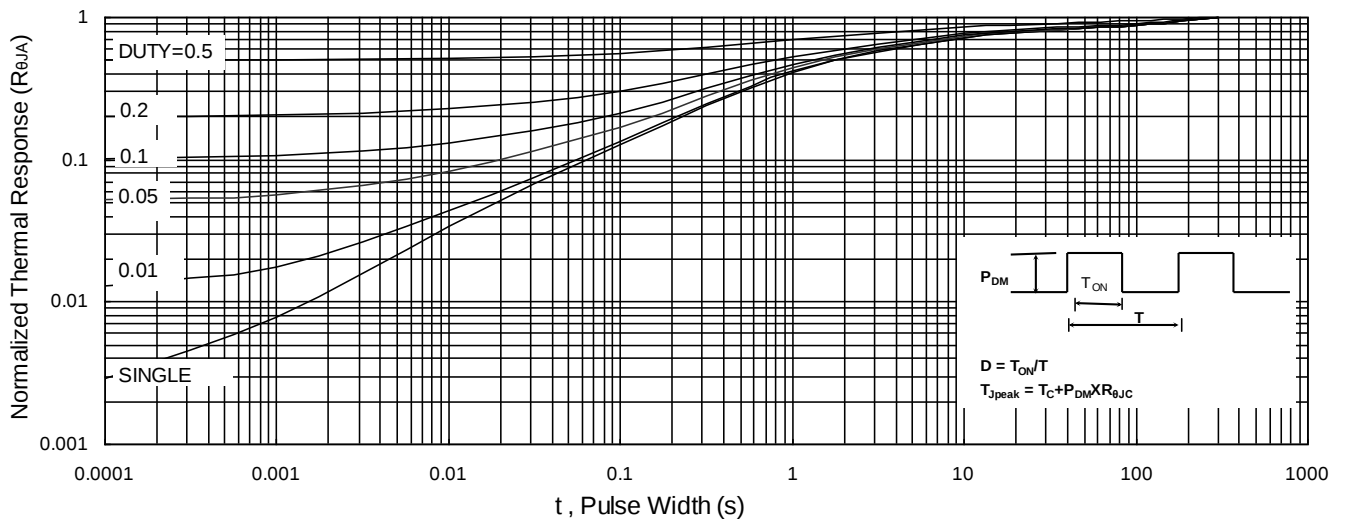
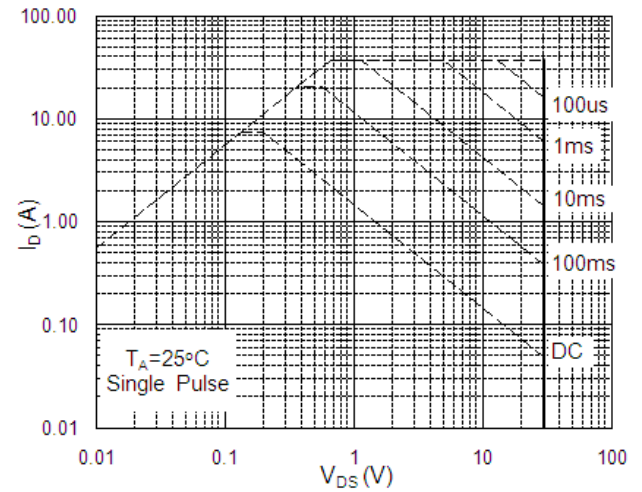
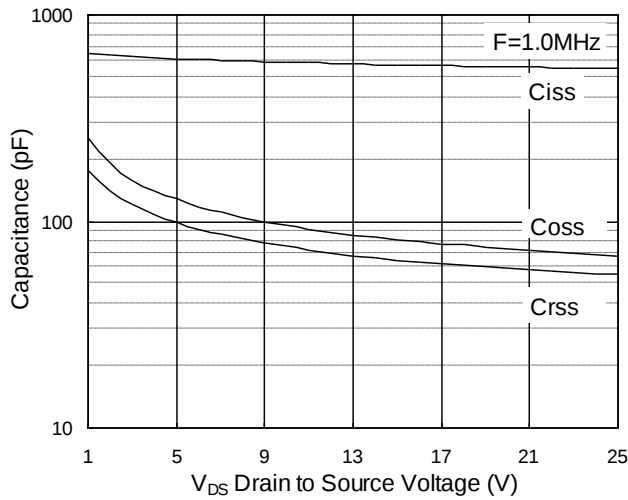


Fig.6 Normalized $R_{DS(on)}$ vs. T_J

Typical Characteristics (cont.)



•Dimensions (SOP-8)

UNIT:mm

SYMBOL	min	max	SYMBOL	min	max
A	1.30	1.60	e	1.27BSC	
A1	1.35	1.85	L	0.40	1.30
b	0.30	0.60			
C	0.15	0.35			
D	4.60	5.20			
E	3.70	4.10			
E1	5.70	6.30			

