



UT4822

Power MOSFET

DUAL N-CHANNEL ENHANCEMENT MODE

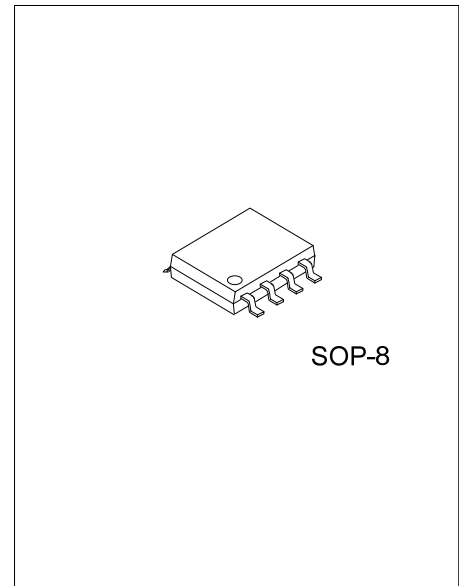
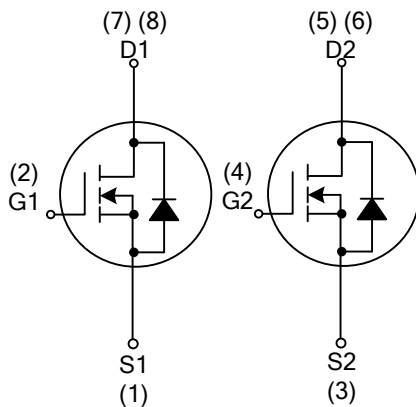
DESCRIPTION

The **UT4822** can provide excellent $R_{DS(ON)}$ and low gate charge by using advanced trench technology. The **UT4822** is suitable for using as a load switch or in PWM applications.

FEATURES

- * 30V/8.5A
- * Low $R_{DS(ON)}$
- * Reliable and Rugged

SYMBOL

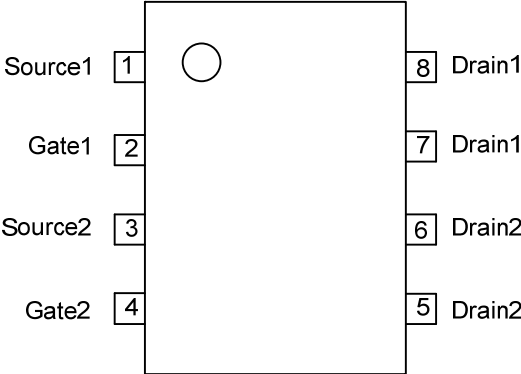


ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
UT4822L-S08-R	UT4822G-S08-R	SOP-8	Tape Reel

<p>UT4822L-S08-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p>	<p>(1) R: Tape Reel</p> <p>(2) S08: SOP-8</p> <p>(3) G: Halogen Free, L: Lead Free</p>
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■ PIN CONFIGURATION



■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	8.5	A
Pulsed Drain Current	I_{DM}	40	A
Power Dissipation	P_D	2	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Note: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. Pulse width limited by $T_{J(MAX)}$

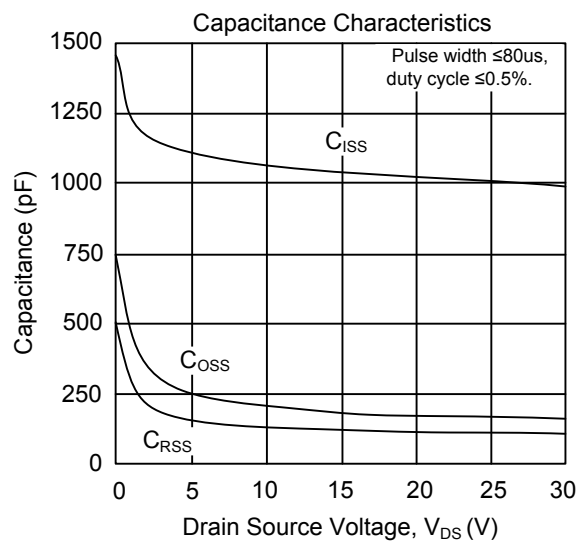
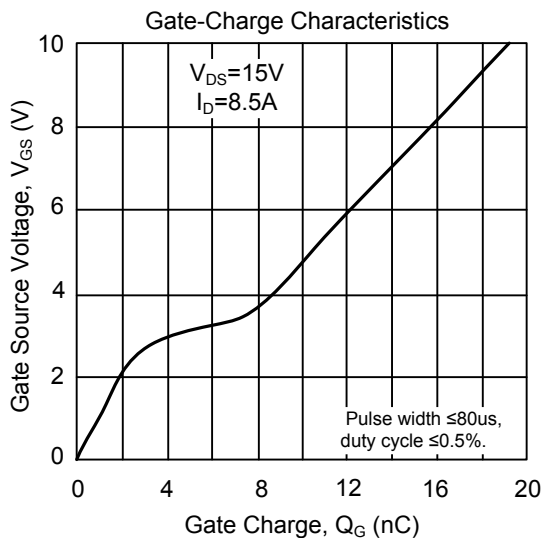
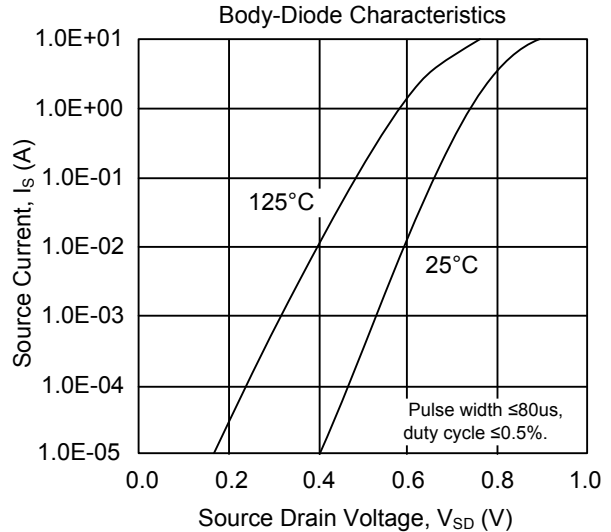
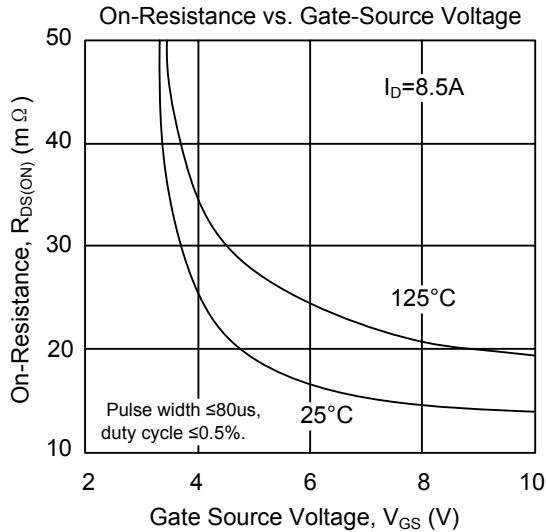
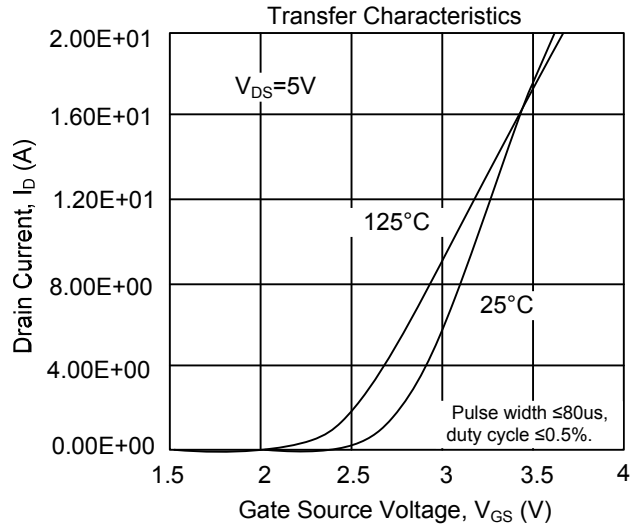
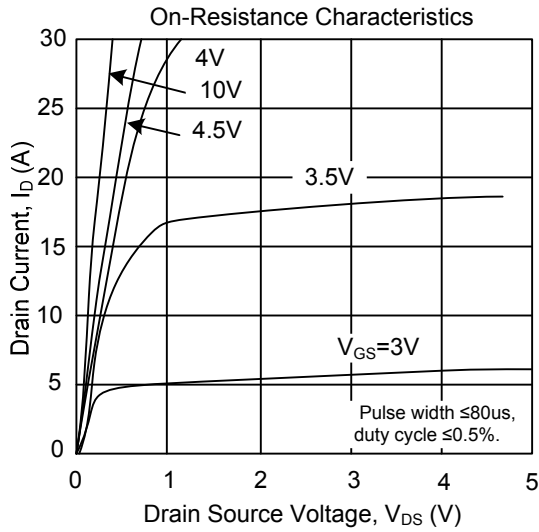
■ THERMAL DATA

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction to Ambient	θ_{JA}		74	110	$^\circ\text{C/W}$

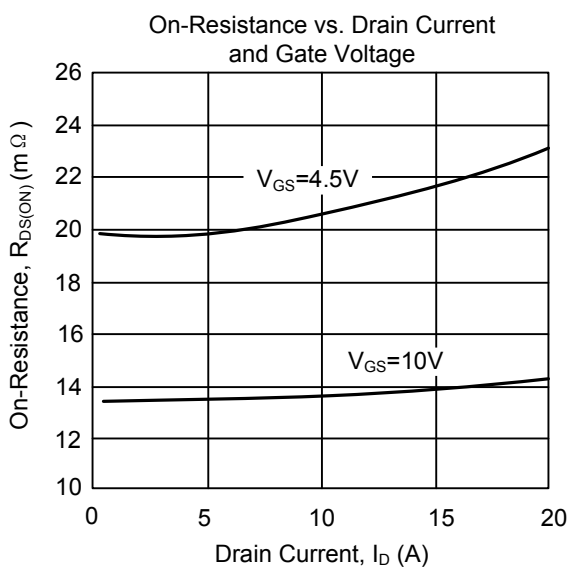
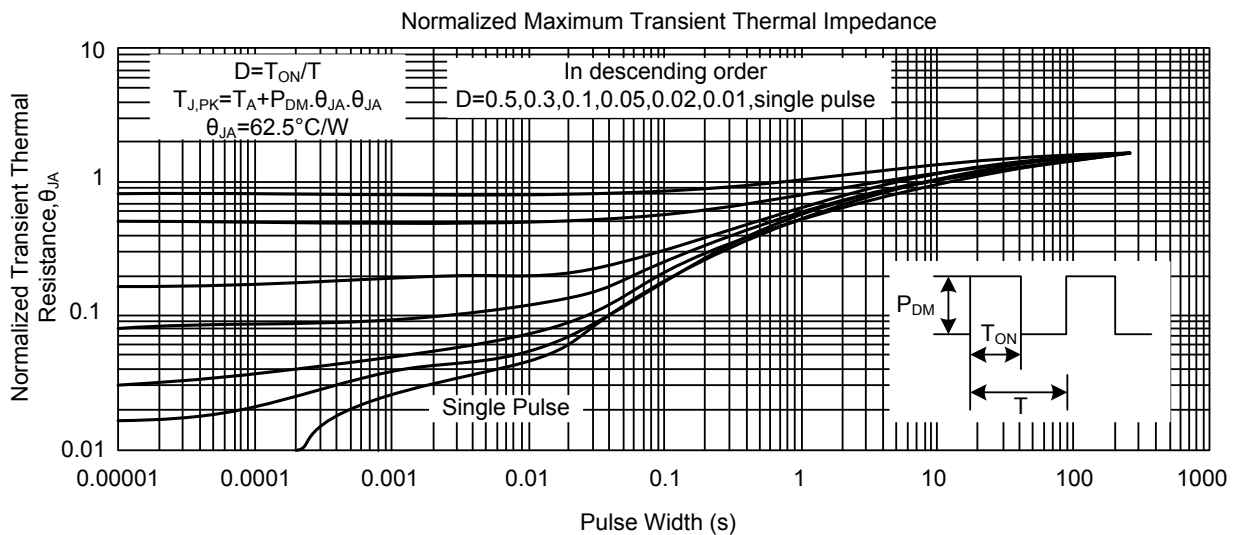
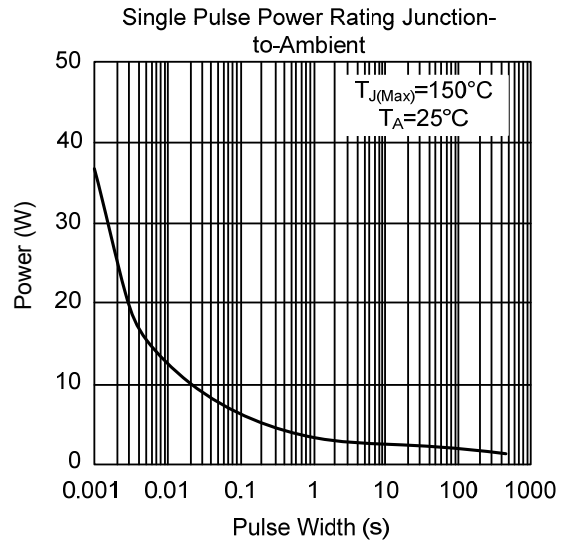
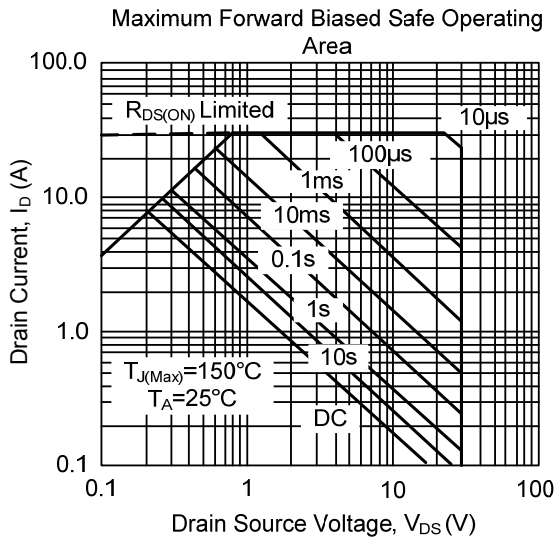
■ ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu\text{A}$	30			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=24V, V_{GS}=0V$			1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1	1.8	3	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=8.5A$		13.4	16	$\text{m}\Omega$
		$V_{GS}=4.5V, I_D=6A$		21	26	$\text{m}\Omega$
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	$V_{GS}=0V, V_{DS}=15V, f=1.0\text{MHz}$		1040	1250	pF
Output Capacitance	C_{OSS}			180		pF
Reverse Transfer Capacitance	C_{RSS}			110		pF
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q_G	$V_{DS}=15V, V_{GS}=10V, I_D=8.5A$		19.2	23	nC
Gate-Source Charge	Q_{GS}			2.6		nC
Gate-Drain Charge	Q_{GD}			4.2		nC
Turn-ON Delay Time	$t_{D(ON)}$	$V_{DD}=15V, V_{GS}=10V, R_G=3\Omega, R_L=1.8\Omega$		5.2	7.5	ns
Turn-ON Rise Time	t_R			4.4	6.5	ns
Turn-OFF Delay Time	$t_{D(OFF)}$			17.3	25	ns
Turn-OFF Fall Time	t_F			3.3	5	ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage	V_{SD}	$I_S=1A, V_{GS}=0V$		0.76	1	V
Maximum Continuous Drain-Source Diode Forward Current	I_S				3	A
Reverse Recovery Time	t_{RR}	$I_F = 8.5A, dI_F / dt = 100 \text{ A}/\mu\text{s}$		16.7	21	ns
Reverse Recovery Charge	Q_{RR}			6.7	10	nC

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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