



# UT4800

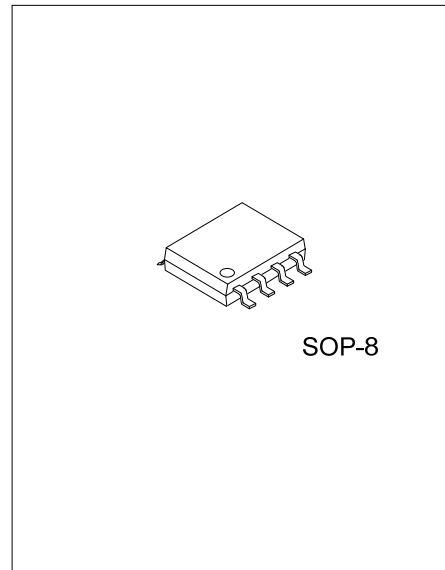
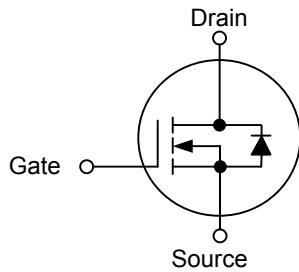
Power MOSFET

## N-CHANNEL ENHANCEMENT MODE

### DESCRIPTION

The **UT4800** uses advanced trench technology to provide excellent  $R_{DS(ON)}$ , low gate charge and operation with low gate voltages. This device is suitable for use as a load switch or in PWM applications.

### SYMBOL



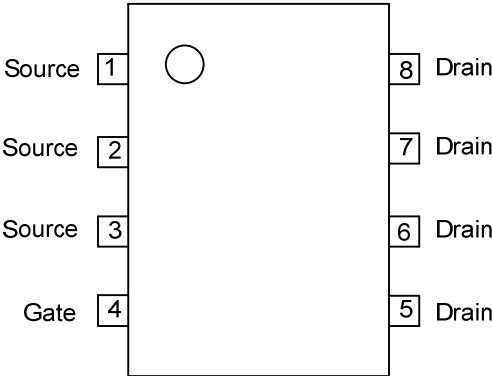
SOP-8

### ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen-Free		
UT4800L-S08-R	UT4800G-S08-R	SOP-8	Tape Reel
UT4800L-S08-T	UT4800G-S08-T	SOP-8	Tube

<p>UT4800L-S08-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Plating</p>	<p>(1) R: Tape Reel, T: Tube</p> <p>(2) S08: SOP-8</p> <p>(3) L: Lead Free Plating, Blank: Pb/Sn</p>
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■ PIN CONFIGURATION



## ■ ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V <sub>DSS</sub>	30	V
Gate-Source Voltage	V <sub>GSS</sub>	±25	V
Continuous Drain Current (Note 1)	I <sub>D</sub>	6.5	A
Pulsed Drain Current (Note 1)	I <sub>DM</sub>	40	A
Power Dissipation	P <sub>D</sub>	1.3	W
Junction Temperature	T <sub>J</sub>	+150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +150	°C

Note: 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.

## ■ THERMAL DATA

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction-to-Ambient	θ <sub>JA</sub>		70	95	°C/W

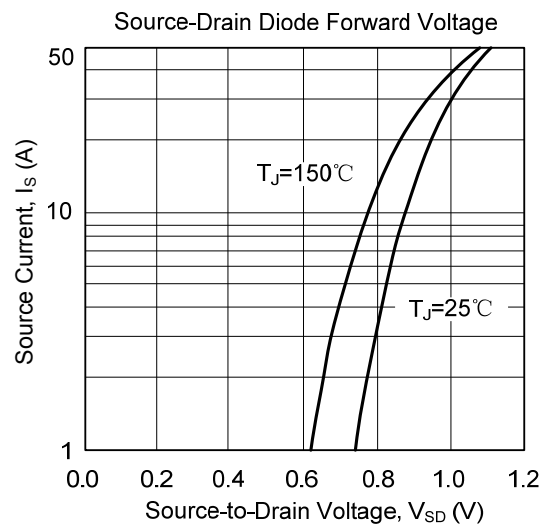
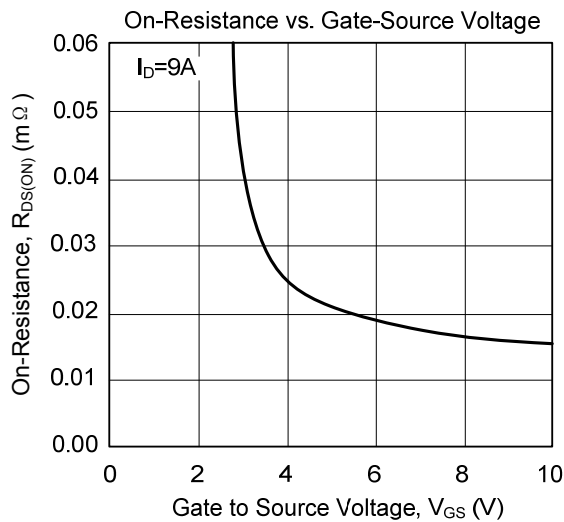
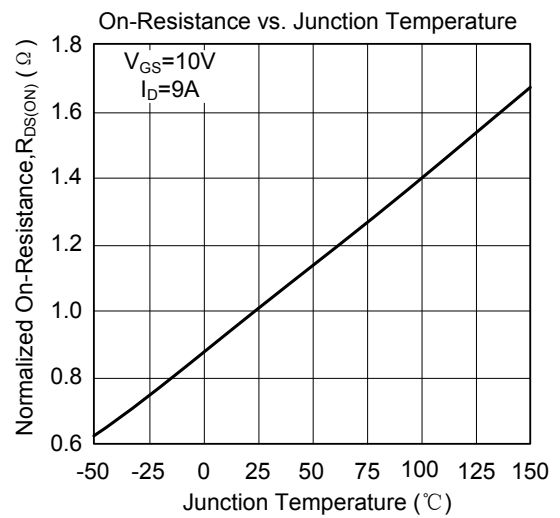
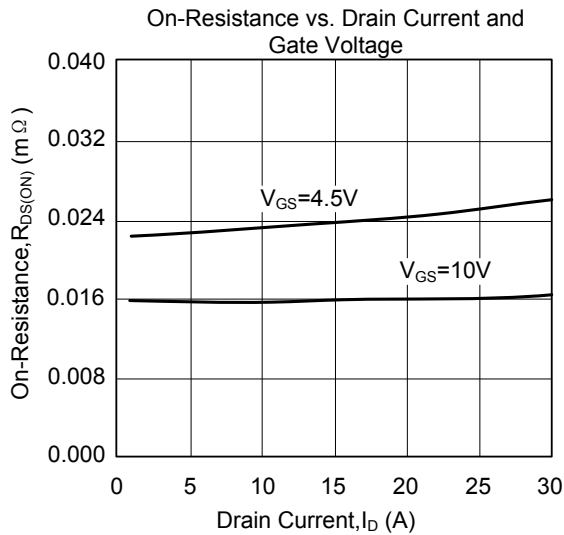
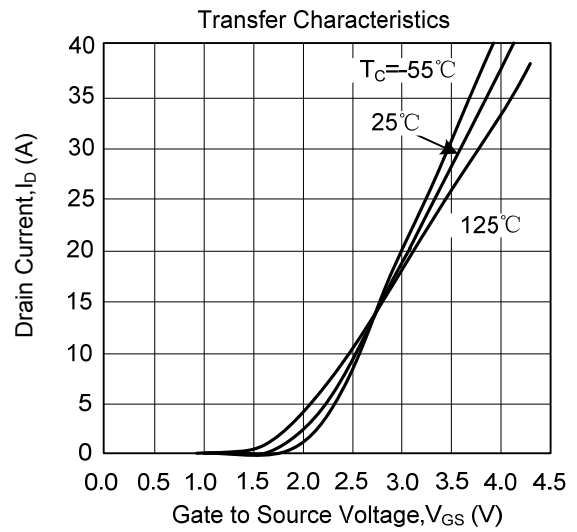
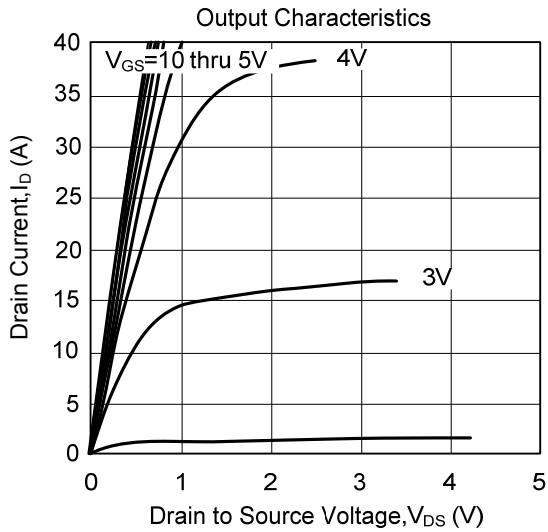
## ■ ELECTRICAL CHARACTERISTICS (T<sub>J</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
<b>STATIC PARAMETERS</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> =0 V, I <sub>D</sub> =250 μA	30			V
Drain-Source Leakage Current	I <sub>DSS</sub>	V <sub>DS</sub> =24 V, V <sub>GS</sub> =0 V			1	μA
Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0 V, V <sub>GS</sub> =±20V			±100	nA
<b>ON CHARACTERISTICS</b>						
Gate-Threshold Voltage	V <sub>GS(TH)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250 μA	0.8		1.8	V
Static Drain-Source On-Resistance	R <sub>DS(ON)</sub>	V <sub>GS</sub> =10 V, I <sub>D</sub> =9A		15.5	18.5	mΩ
		V <sub>GS</sub> =4.5 V, I <sub>D</sub> =7A		23	30	mΩ
<b>SWITCHING PARAMETERS</b>						
Turn-ON Delay Time	t <sub>D(ON)</sub>	V <sub>GS</sub> =10V, V <sub>DS</sub> =15V, R <sub>L</sub> =15Ω, R <sub>GEN</sub> =6Ω		7	15	ns
Turn-ON Rise Time	t <sub>R</sub>			12	20	ns
Turn-OFF Delay Time	t <sub>D(OFF)</sub>			32	50	ns
Turn-OFF Fall-Time	t <sub>F</sub>			14	25	ns
Total Gate Charge	Q <sub>G</sub>	V <sub>DS</sub> =15V, V <sub>GS</sub> =5.0V, I <sub>D</sub> =9A		8.7	13	nC
Gate-Source Charge	Q <sub>GS</sub>			1.5		nC
Gate-Drain Charge	Q <sub>GD</sub>			3.5		nC
<b>DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS</b>						
Diode Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =2.3A		0.75	1.2	V
Maximum Body-Diode Continuous Current	I <sub>S</sub>				2.3	A
Body Diode Reverse Recovery Time	t <sub>RR</sub>	I <sub>F</sub> =2.3A, dI/dt=100A/μs		30	60	ns

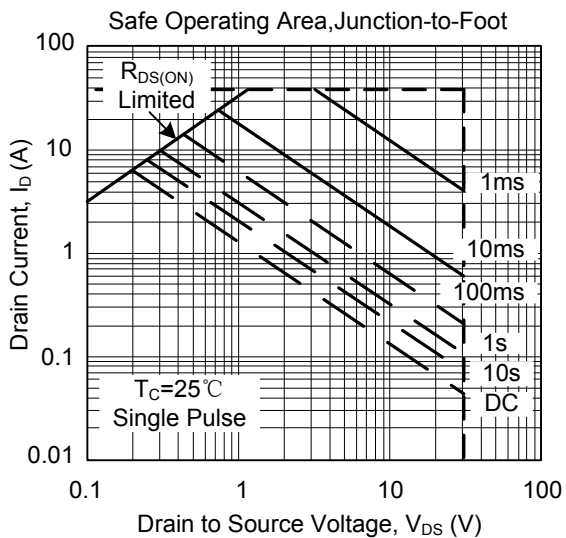
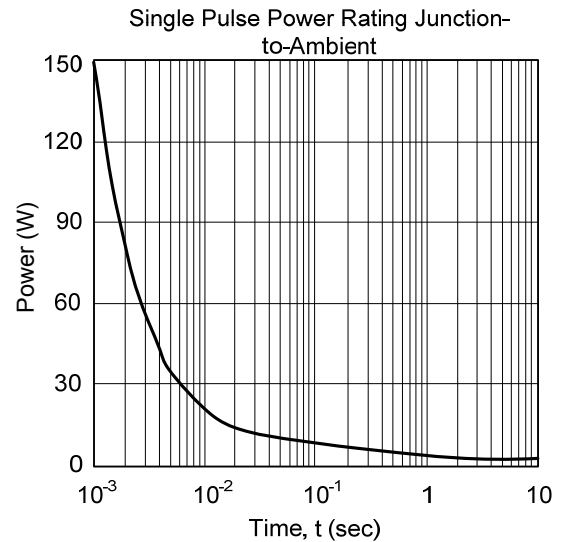
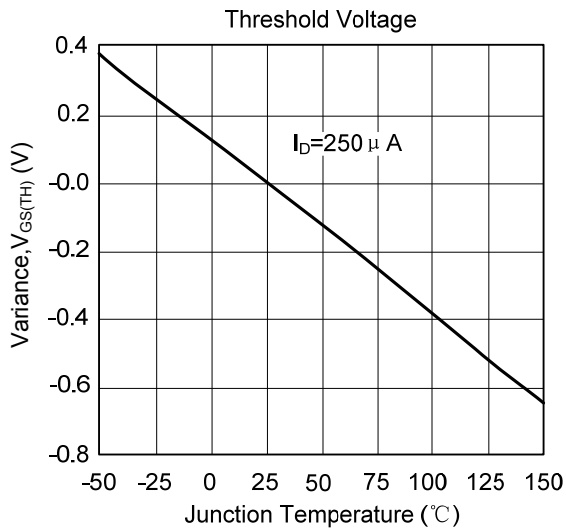
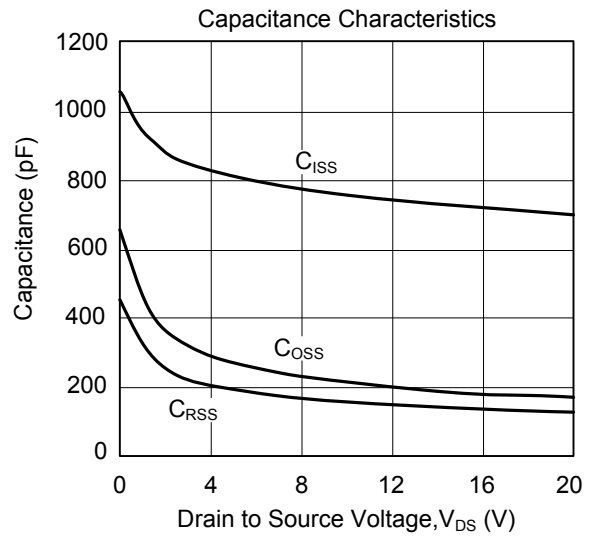
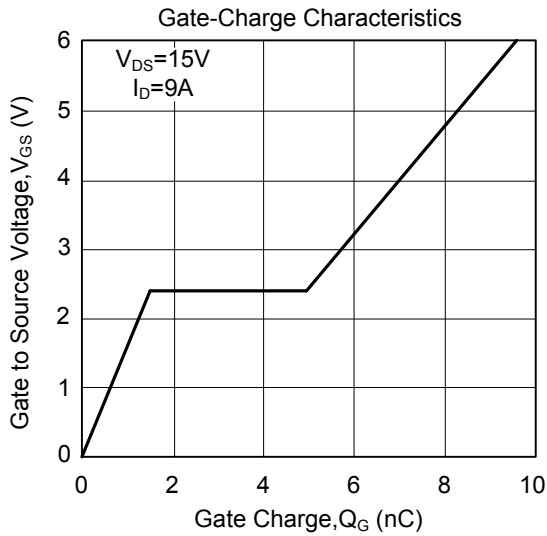
Note:1. Repetitive Rating : Pulse width limited by T<sub>J</sub>

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

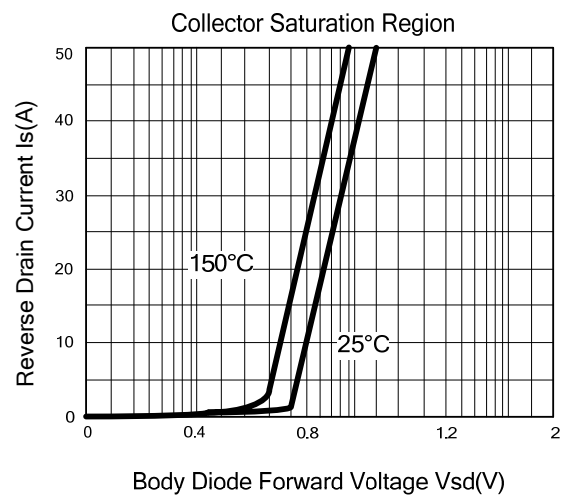
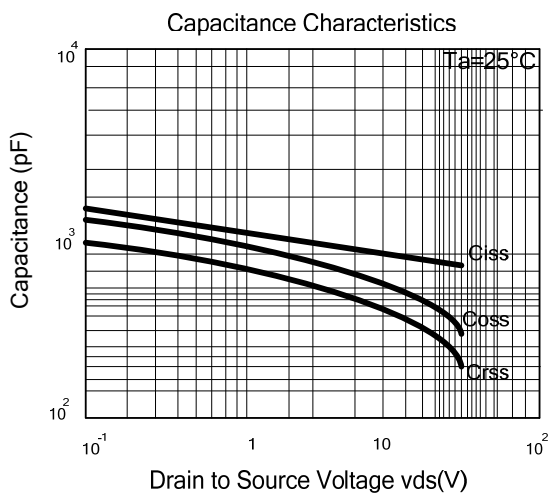
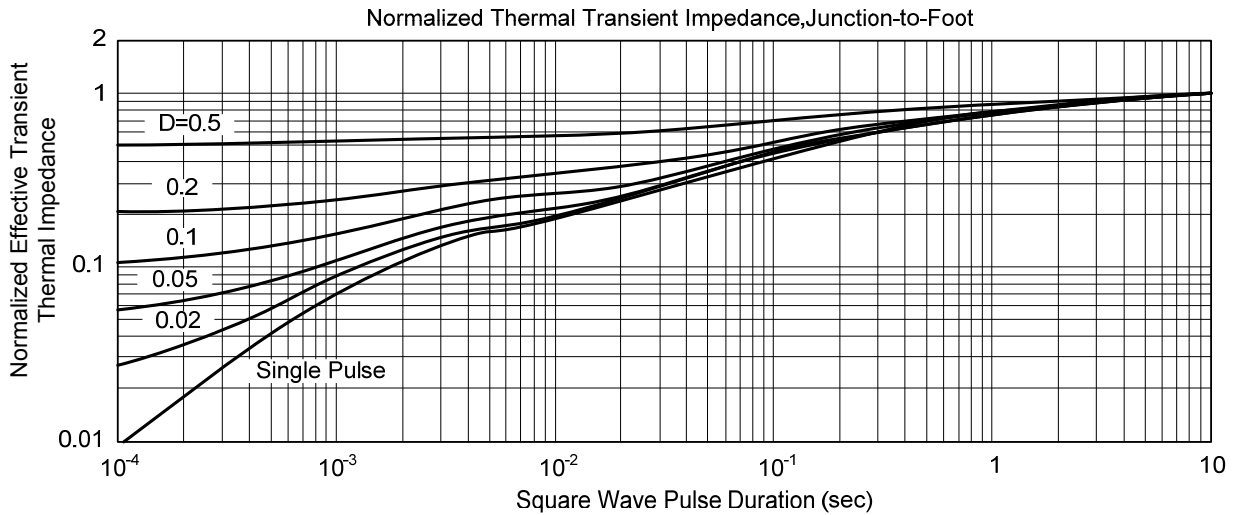
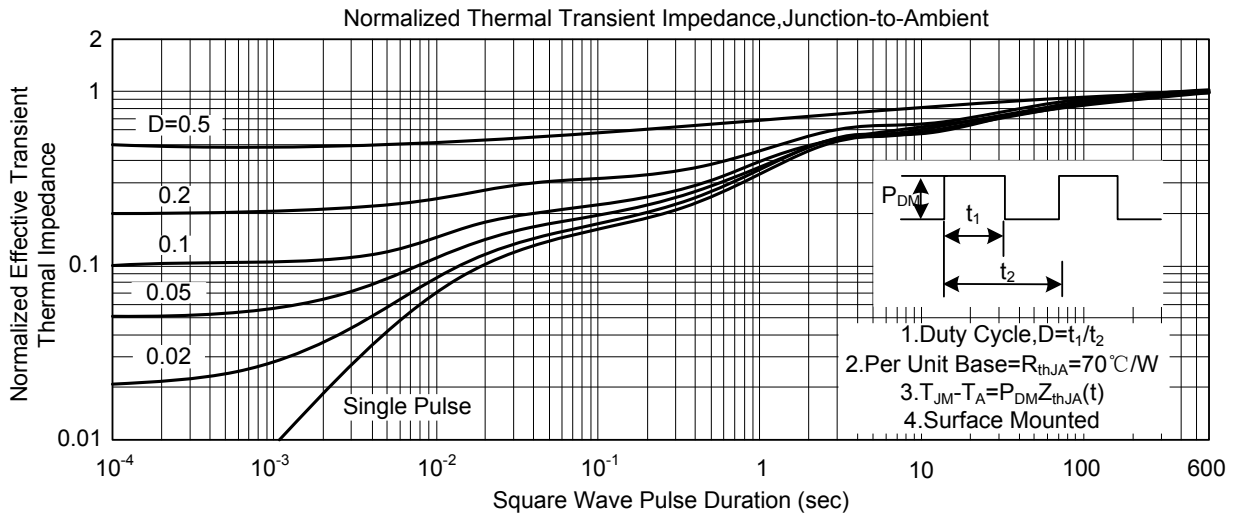
## TYPICAL CHARACTERISTICS



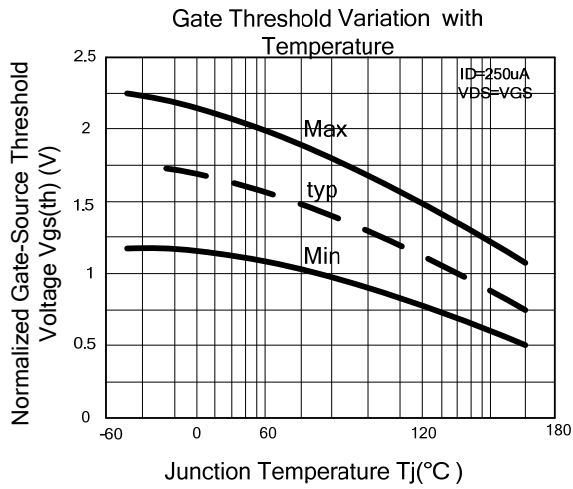
## ■ TYPICAL CHARACTERISTICS(Cont.)



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## ■ TYPICAL CHARACTERISTICS(Cont.)



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