



UT4812

Power MOSFET

DUAL N-CANNEL ENHANCEMENT MODE

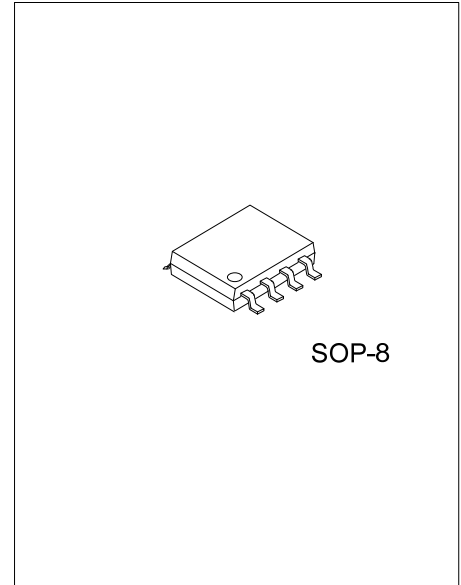
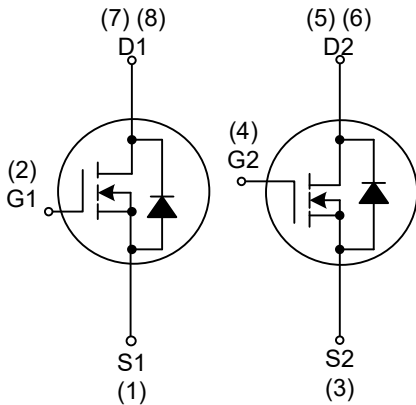
DESCRIPTION

The **UT4812** can provide excellent $R_{DS(ON)}$ and low gate charge by using advanced trench technology. The **UT4812** is suitable for using as a load switch or in PWM applications.

FEATURES

- * 30V/6.9A
- * Low $R_{DS(ON)}$
- * Reliable and Rugged

SYMBOL



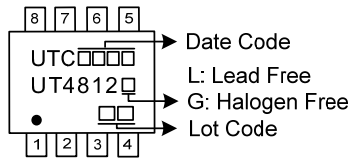
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
UT4812L-S08-R	UT4812G-S08-R	SOP-8	S1	G1	S2	G2	D2	D2	D1	D1	Tape Reel

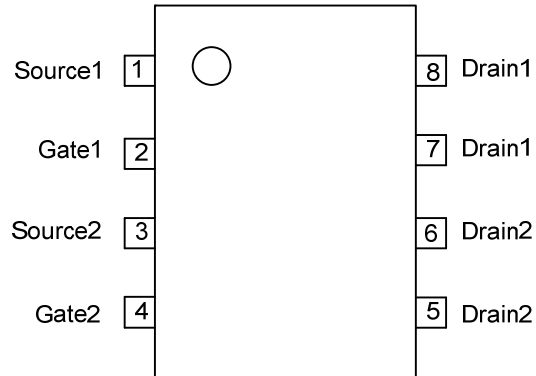
Note: Pin Assignment: G: Gate D: Drain S: Source

<p>UT4812G-S08-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) S08: SOP-8 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



PIN CONFIGURATION



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V _{DSS}	30	V
Gate-Source Voltage	V _{GSS}	±20	
Continuous Drain Current (Note3)	I _D	6.9	A
Pulsed Drain Current (Note1)	I _{DM}	30	
Power Dissipation	P _D	0.8	W
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-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	RATINGS	UNIT
Junction-to-Ambient	θ _{JA}	156	°C/W

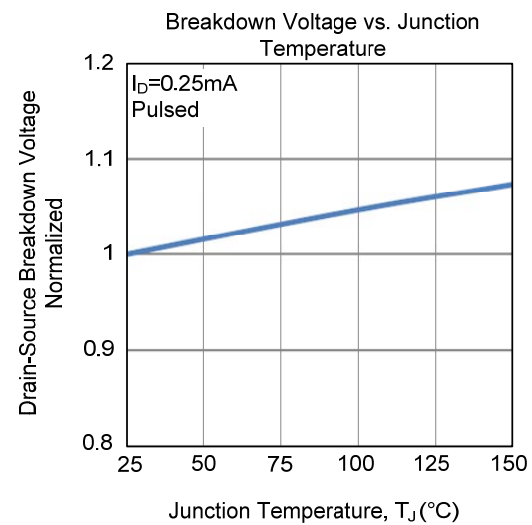
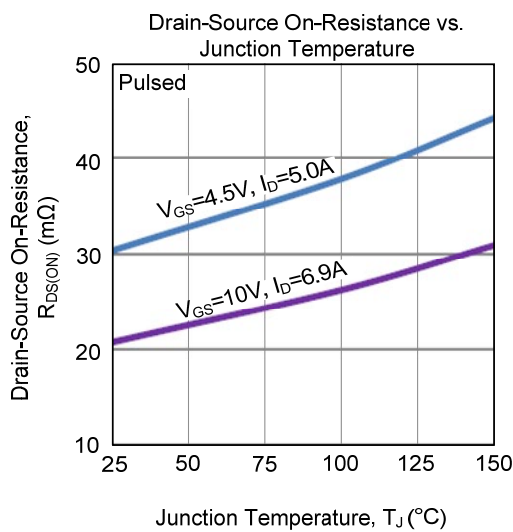
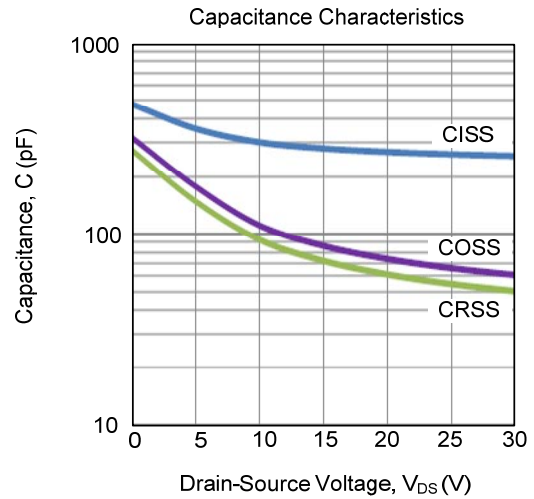
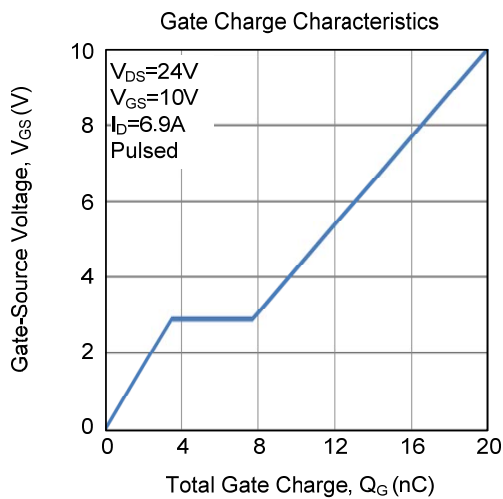
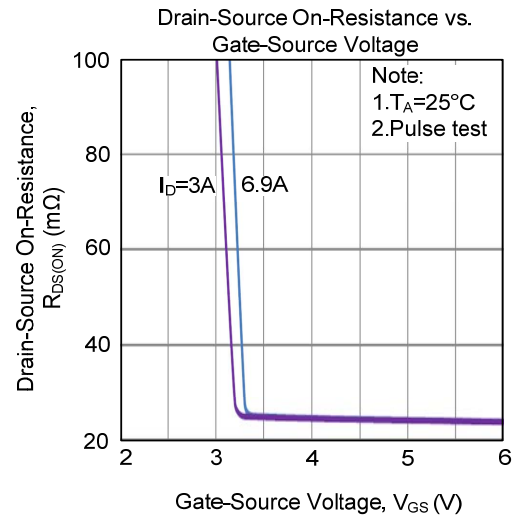
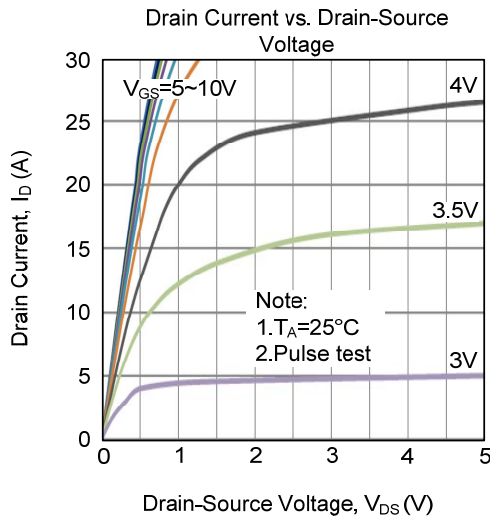
Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

■ ELECTRICAL CHARACTERISTICS (T_J=25°C, unless otherwise specified)

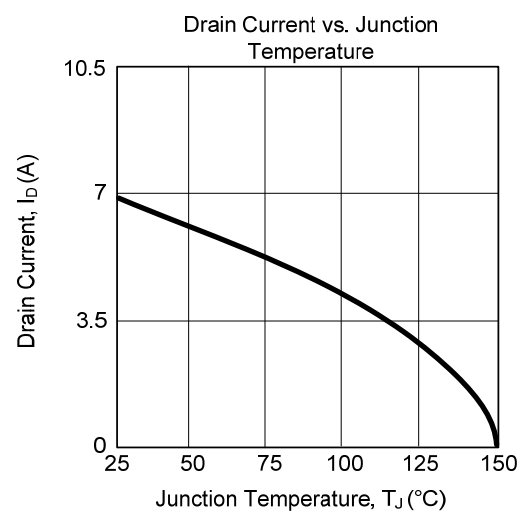
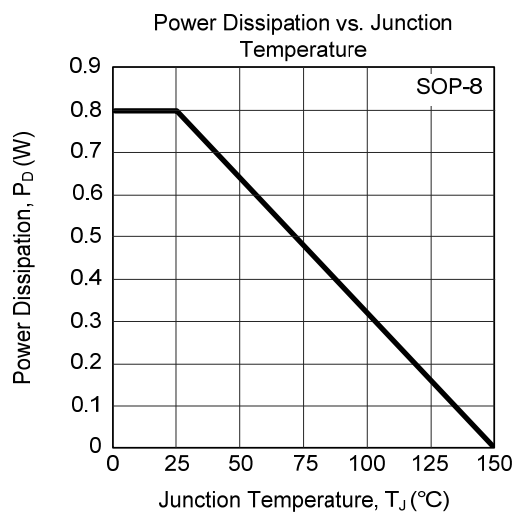
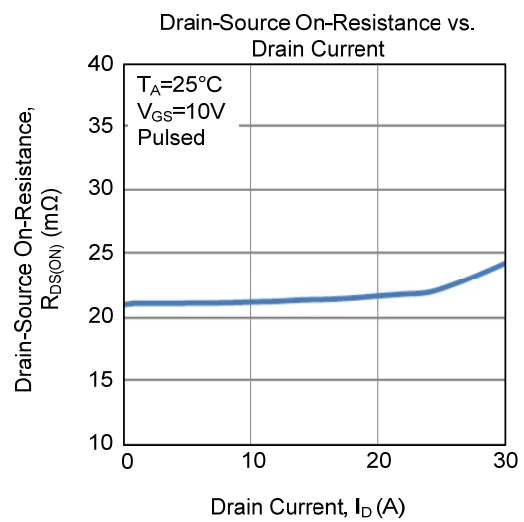
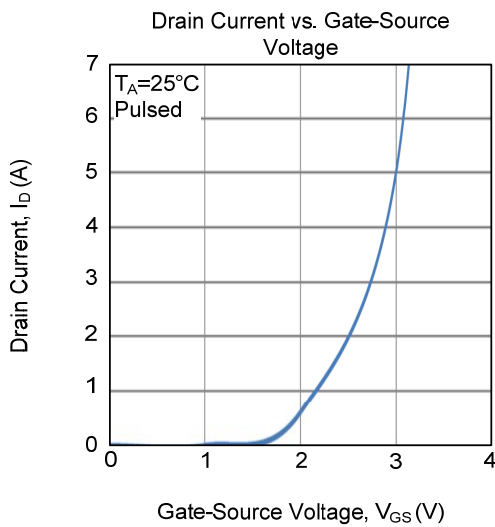
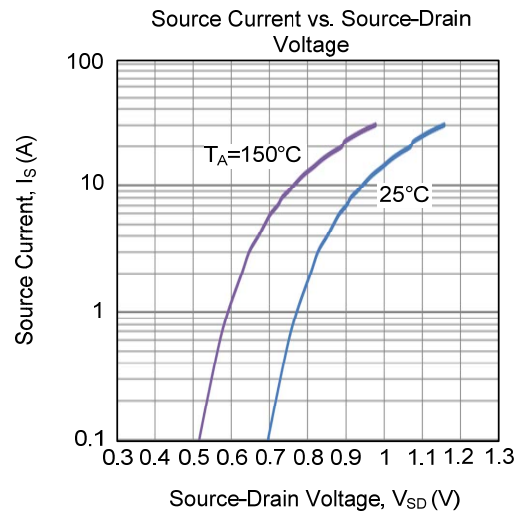
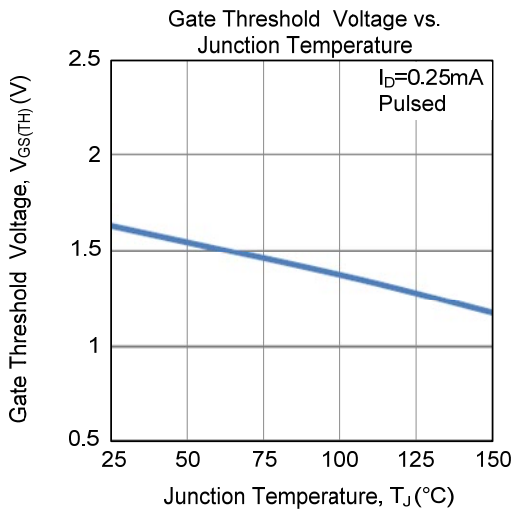
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250μA	30			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	μA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250μA	1.0		3.0	V
Drain-Source On-State Resistance (Note2)	R _{DS(ON)}	V _{GS} =10V, I _D =6.9A			28	mΩ
		V _{GS} =4.5V, I _D =5.0A			42	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{DS} =15V, V _{GS} =0V, f=1MHz		280		pF
Output Capacitance	C _{OSS}			86		pF
Reverse Transfer Capacitance	C _{RSS}			70		pF
SWITCHING PARAMETERS						
Total Gate Charge	Q _G	V _{DS} =24V, V _{GS} =10V, I _D =6.9A (Note 1, 2)		20		nC
Gate Source Charge	Q _{GS}			3.5		nC
Gate Drain Charge	Q _{GD}			4.2		nC
Turn-ON Delay Time	t _{D(ON)}	V _{DD} =15V, V _{GS} =10V, I _D =6.9A, R _G =3Ω (Note 1, 2)		3.8		ns
Turn-ON Rise Time	t _R			16		ns
Turn-OFF Delay Time	t _{D(OFF)}			12		ns
Turn-OFF Fall-Time	t _F			22		ns
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage(Note2)	V _{SD}	I _S =1A			1	V
Maximum Continuous Drain-Source Diode Forward Current	I _S				6.9	A
Body Diode Reverse Recovery Time	t _{RR}	I _S =6.9A, V _{GS} =0V,		250		ns
Body Diode Reverse Recovery Charge	Q _{RR}	dI _F /dt = 100 A/μs		530		nC

Notes: 1. Pulse Test: Pulse width ≤ 300μs, Duty cycle ≤ 2%.
2. Essentially independent of operating temperature.

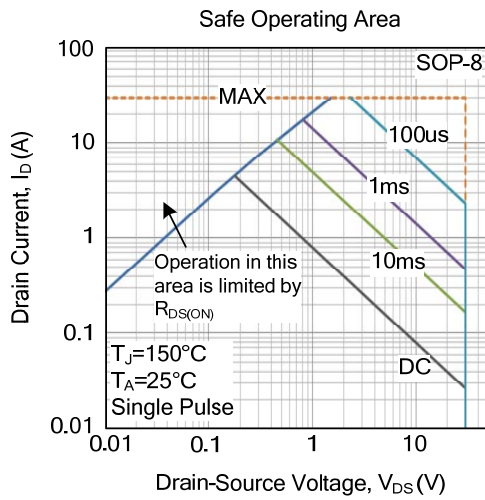
TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



■ TYPICAL CHARACTERISTICS (Cont.)



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