



UT4812Z

Power MOSFET

30V, 6.9A DUAL N-CHANNEL ENHANCEMENT MODE

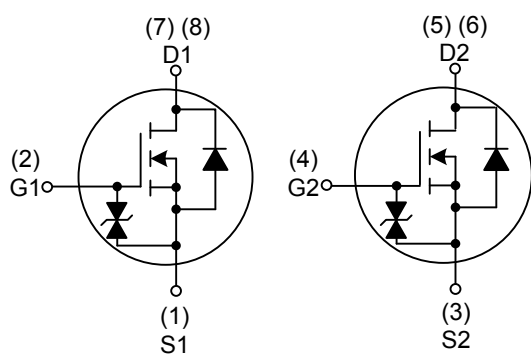
DESCRIPTION

The UTC **UT4812Z** can provide excellent $R_{DS(ON)}$ and low gate charge by using advanced trench technology. The UTC **UT4812Z** is suitable for using as a load switch or in PWM applications.

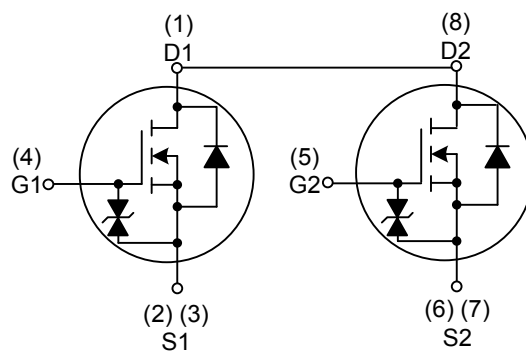
FEATURES

- * Low $R_{DS(ON)}$
- * Reliable and Rugged

SYMBOL



SOP-8



TSSOP-8

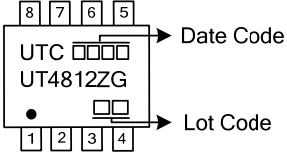
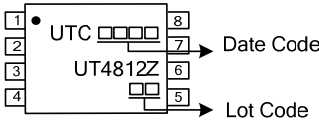
ORDERING INFORMATION

Ordering Number	Package	Pin Assignment								Packing
		1	2	3	4	5	6	7	8	
UT4812ZG-S08-R	SOP-8	S	G	S	G	D	D	D	D	Tape Reel
UT4812ZG-P08-R	TSSOP-8	D	S	S	G	G	S	S	D	Tape Reel

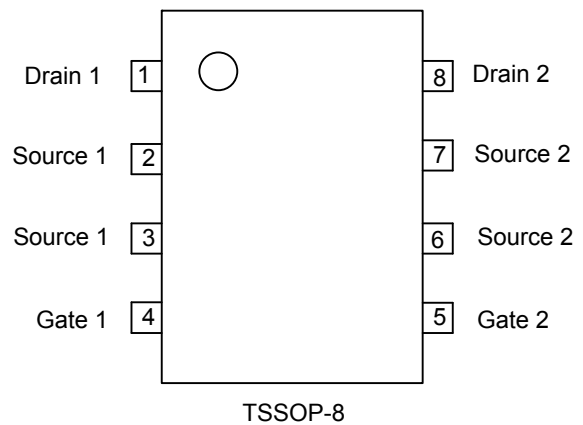
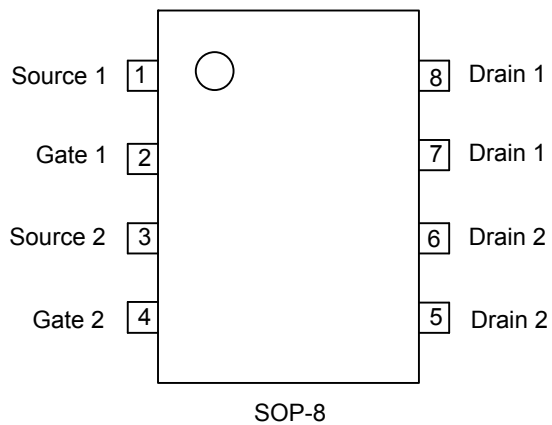
Note: Pin Assignment: G: Gate D: Drain S: Source

UT4812ZG-S08-R	(1) Packing Type	(1) R: Tape Reel
	(2) Package Type	(2) S08: SOP-8
	(3) Green Package	(3) G: Halogen Free and Lead Free

■ MARKING

SOP-8	TSSOP-8
	

■ PIN CONFIGURATION



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

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current (Note 2)	I_D	6.9	A
Pulsed Drain Current (Note 3)	I_{DM}	30	A
Power Dissipation	SOP-8	P_D	2
	TSSOP-8		1.5
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ + 150	$^\circ\text{C}$

Notes: 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. Surface Mounted on 1in^2 pad area, $t \leq 10\text{sec}$.

3. Repetitive Rating: Pulse width limited by maximum junction temperature.

■ THERMAL DATA

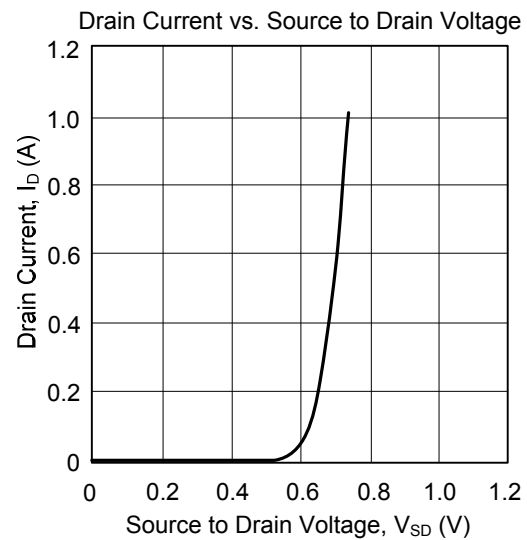
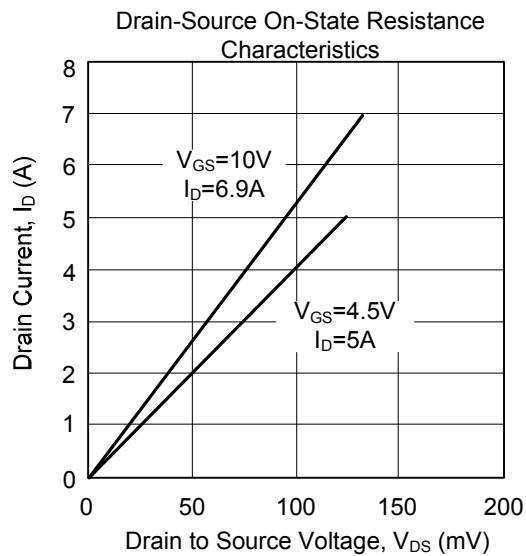
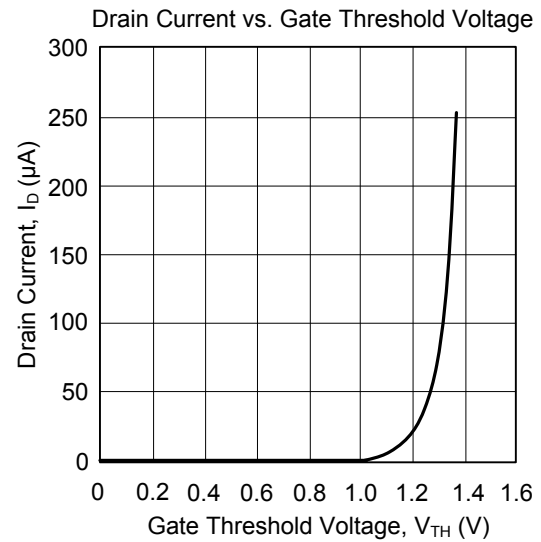
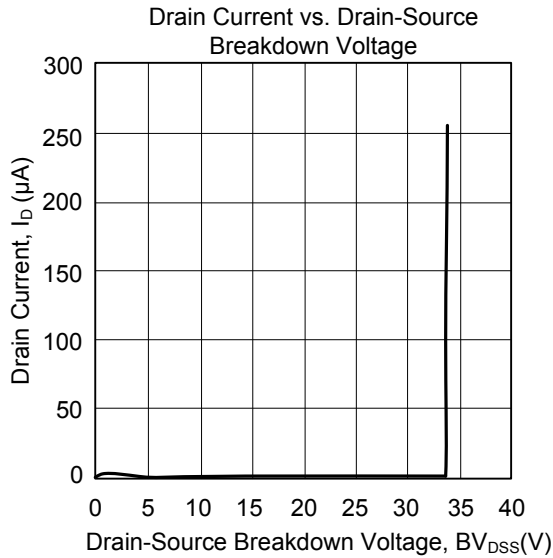
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	110	$^\circ\text{C/W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0 V, I _D =250μA	30			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =30V, V _{GS} =0 V			1	μA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0 V, V _{GS} = ±20V			5	μA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250 μA	1		3	V
Drain-Source On-State Resistance (Note)	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		680		pF
Output Capacitance	C _{OSS}			102		pF
Reverse Transfer Capacitance	C _{RSS}			77		pF
SWITCHING PARAMETERS						
Total Gate Charge	Q _G	V _{DS} =15V, V _{GS} =10V, I _D =6.9A		13.84		nC
Gate Source Charge	Q _{GS}			1.82		nC
Gate Drain Charge	Q _{GD}			3.2		nC
Turn-ON Delay Time	t _{D(ON)}	V _{GS} =10V, V _{DS} =15V, R _L =2.2Ω, R _G =3Ω		4.6		ns
Turn-ON Rise Time	t _R			4.1		ns
Turn-OFF Delay Time	t _{D(OFF)}			20.6		ns
Turn-OFF Fall-Time	t _F			5.2		ns
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS						
Maximum Continuous Drain-Source Diode Forward Current	I _S				3	A
Drain-Source Diode Forward Voltage (Note)	V _{SD}	I _S =1.0A			1	V
Body Diode Reverse Recovery Time	t _{rr}	I _F =6.9A, dI _F /dt=100A/μs		16.5		ns
Body Diode Reverse Recovery Charge	Q _{rr}			7.8		nC

Note: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

TYPICAL CHARACTERISTICS



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