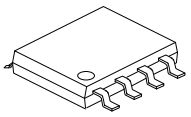
UT4812Z

Power MOSFET

30V, 6.9A DUAL N-CHANNEL ENHANCEMENT MODE



SOP-8

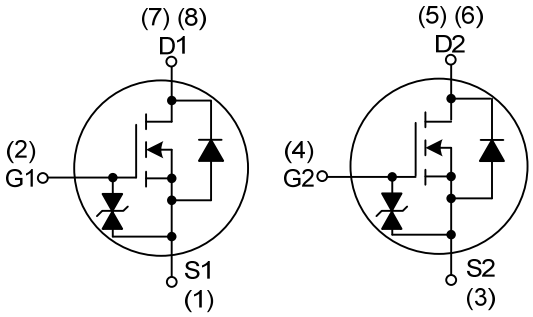
■ DESCRIPTION

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



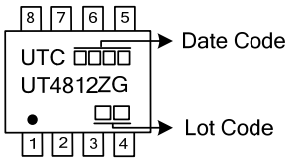
■ ORDERING INFORMATION

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

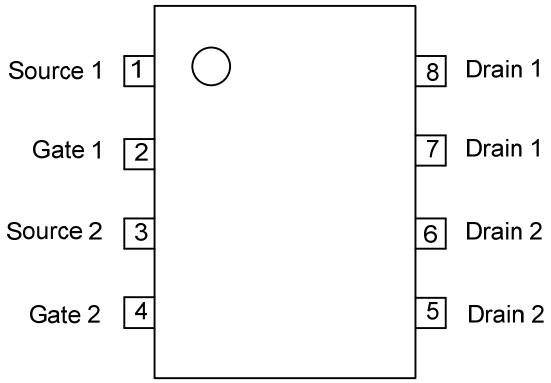
Note: Pin Assignment: G: Gate D: Drain S: Source

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



■ 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	V
Continuous Drain Current (Note 2)	I_D	6.9	A
Pulsed Drain Current (Note 3)	I_{DM}	30	A
Power Dissipation	P_D	2	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 ~ + 150	°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 ≤10sec
3. Pulse width limited by $T_{J(MAX)}$

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	110	°C /W

■ 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} =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	1.9	3	V
Drain-Source On-State Resistance (Note)	$R_{DS(ON)}$	V_{GS} =10V, I_D =6.9A		22.5	28	mΩ
		V_{GS} =4.5V, I_D =5.0A		34.5	42	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	V_{DS} =15 V, V_{GS} =0V, f=1MHz		680	820	pF
Output Capacitance	C_{OSS}			102		pF
Reverse Transfer Capacitance	C_{RSS}			77	108	pF
SWITCHING PARAMETERS						
Turn-ON Delay Time	$t_{D(ON)}$	V_{GS}=10V, V_{DS}=15V, R_L=2.2Ω, R_{GEN} =3Ω		4.6	7	ns
Turn-ON Rise Time	t_R			4.1	6.2	ns
Turn-OFF Delay Time	$t_{D(OFF)}$			20.6	30	ns
Turn-OFF Fall-Time	t_F			5.2	7.5	ns
Total Gate Charge	Q_G	V_{DS} =15V, V_{GS} =10V, I_D =6.9A		13.84	17	nC
Gate Source Charge	Q_{GS}			1.82		nC
Gate Drain Charge	Q_{GD}			3.2		nC
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage (Note)	V_{SD}	I_S=1A		0.76	1	V
Maximum Continuous Drain-Source Diode Forward Current	I_S				3	A
Body Diode Reverse Recovery Time	t_{rr}	I_F=6.9 A, dI/dt=100A/μs		16.5	20	ns
Body Diode Reverse Recovery Charge	Q_{RR}	I_F=6.9 A, dI/dt=100A/μs		7.8	10	nC

Note: Pulse width ≤300μs, duty cycle≤2%.

■ TYPICAL CHARACTERISTICS