



UT4812Z

Power MOSFET

DUAL N-CHANNEL ENHANCEMENT MODE

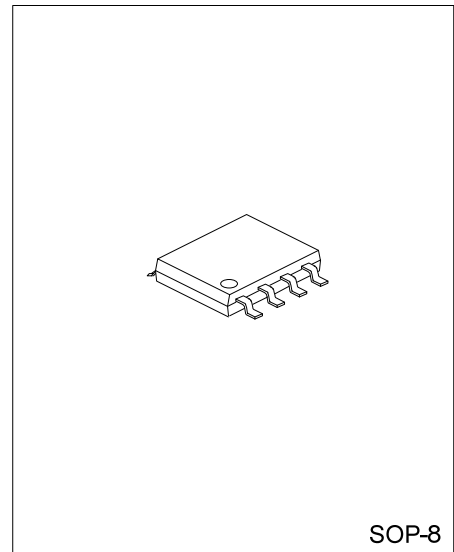
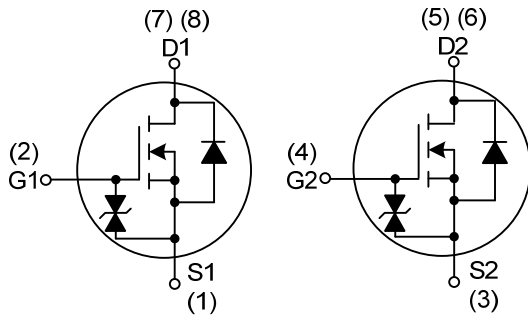
DESCRIPTION

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

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

SYMBOL



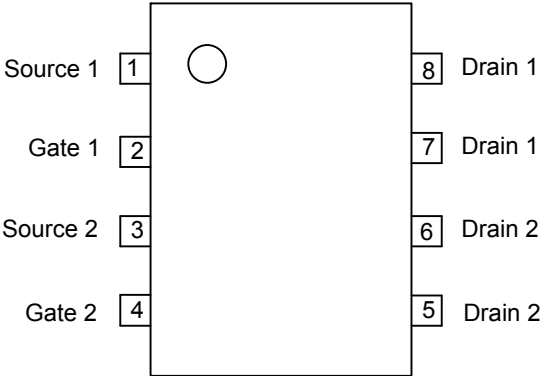
SOP-8

ORDERING INFORMATION

Ordering Number	Package	Packing
UT4812ZG-S08-R	SOP-8	Tape Reel

<p>UT4812ZG-S08-R</p> <pre> graph TD A[UT4812ZG-S08-R] --- B[] B --- C[] B --- D[] B --- E[] C --- F["(1)Packing Type"] D --- G["(2)Package Type"] E --- H["(3)Halogen Free"] </pre>	<p>(1) R: Tape Reel</p> <p>(2) S08: SOP-8</p> <p>(3) G: Halogen Free</p>
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■ PIN CONFIGURATION



■ ABSOLUTE MAXIMUM RATINGS (Ta = 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 1in² pad area, t ≤ 10sec

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

■ THERMAL DATA

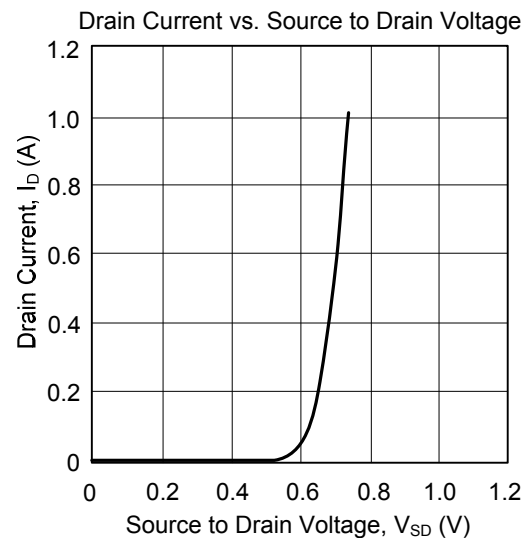
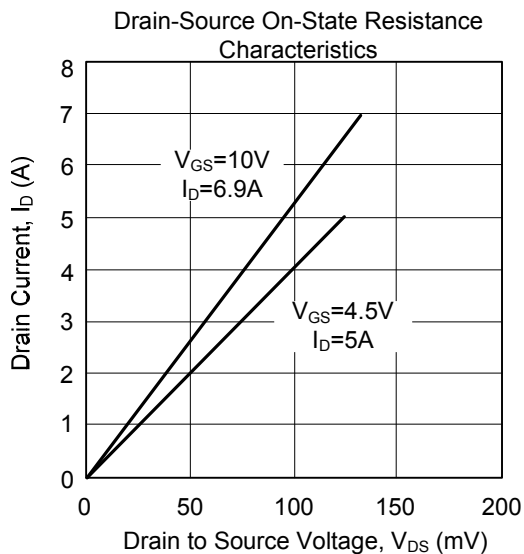
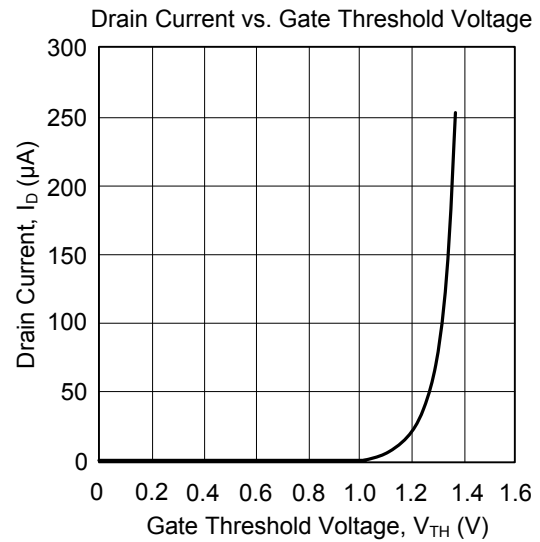
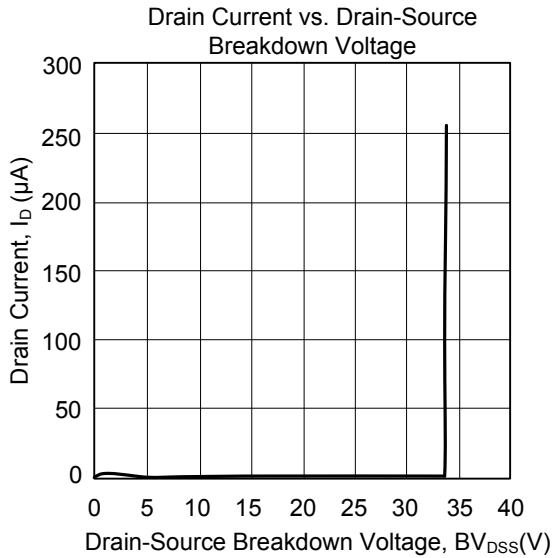
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction to Ambient	θ _{JA}		74	110	°C /W

■ 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



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