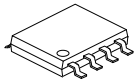
UTM4953

Power MOSFET

DUAL P-CHANNEL ENHANCEMENT MODE



SOP-8

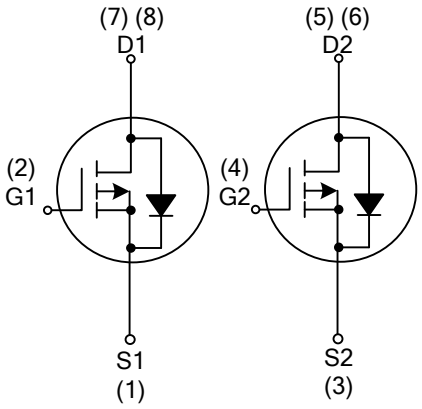
■ DESCRIPTION

The **UTM4953** uses advanced UTC 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.

■ FEATURES

* $R_{DS(ON)}$<60mΩ @V_{GS}=-10V
* $R_{DS(ON)}$<95mΩ @V_{GS}=-4.5V
* Low capacitance
* Low gate charge
* Fast switching capability
* Avalanche energy specified

■ SYMBOL



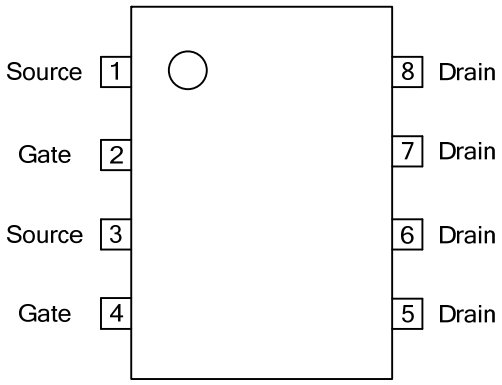
■ ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
UTM4953L-S08-R	UTM4953G-S08-R	SOP-8	Tape Reel

UTM4953L-S08-R

(1)Packing Type	(1) R: Tape Reel, T: Tube
(2)Package Type	(2) S08: SOP-8
(3)Lead Plating	(3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn

■ PIN CONFIGURATION



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

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	-30	V
Gate-Source Voltage		V_{GSS}	±25	V
Drain Current	Continuous	I_D	-4.9	A
	Pulsed	I_{DM}	-30	
Power Dissipation		P_D	2.5	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}	50	°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}=0V, I_D=-250μA	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-24V, V_{GS}=0V			-1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±25V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS}=V_{GS}, I_D=-250μA	-1	-1.5	-2	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-4.9A		53	60	mΩ
		V_{GS}=-4.5V, I_D=-3.6A		80	95	
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	V_{DS}=-25V, V_{GS}=0V, f=1.0MHz		1260		pF
Output Capacitance	C_{OSS}			340		pF
Reverse Transfer Capacitance	C_{RSS}			220		pF
SWITCHING PARAMETERS (Note)						
Turn-ON Delay Time	$t_{D(ON)}$	V_{GEN}=-10V, V_{DD}=-15V, R_L=7.5Ω, R_G=6Ω, I_D=-2A		10	18	ns
Turn-ON Rise Time	t_R			15	20	ns
Turn-OFF Delay Time	$t_{D(OFF)}$			22	38	ns
Turn-OFF Fall-Time	t_F			15	25	ns
Total Gate Charge	Q_G	V_{DS}=-15V, V_{GS}=-10V, I_D=-4.6A		22.3	29	nC
Gate Source Charge	Q_{GS}			4.65		nC
Gate Drain Charge	Q_{GD}			2		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Diode Forward Voltage	V_{SD}	I_{SD}=-1.7A, V_{GS}=0V		-0.7	-1.3	V

Note: Pulse width≦300μs, Duty cycle≦2%

■ TYPICAL CHARACTERISTICS