



UTM4953

Power MOSFET

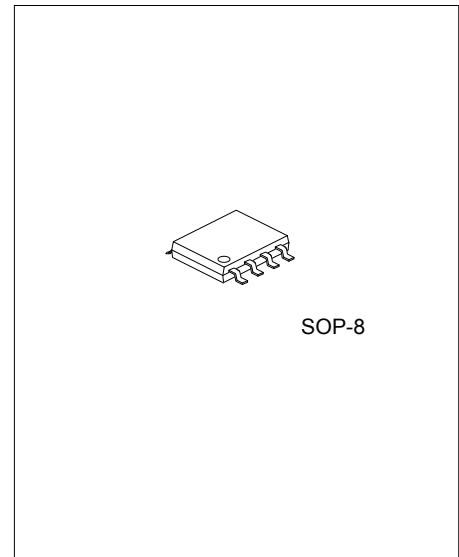
DUAL P-CHANNEL ENHANCEMENT MODE

DESCRIPTION

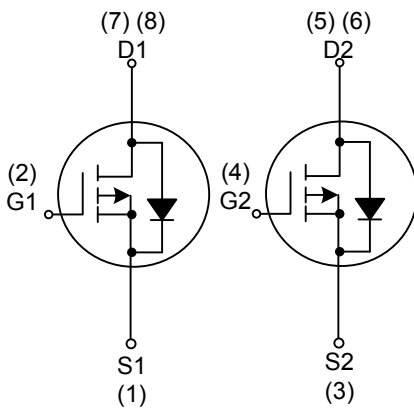
The **UTM4953** uses advanced UTC technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with low gate voltages. This device is suitable for use as a load switch or in PWM applications.

FEATURES

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



SYMBOL



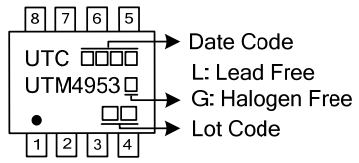
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
UTM4953L-S08-R	UTM4953G-S08-R	SOP-8	S1	G1	S2	G2	D2	D2	D1	D1	Tape Reel

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

<p>UTM4953G-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



■ 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}	± 25	V
Drain Current	Continuous	I_D	-4.9
	Pulsed	I_{DM}	-30
Power Dissipation	P_D	2.5	W
Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

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

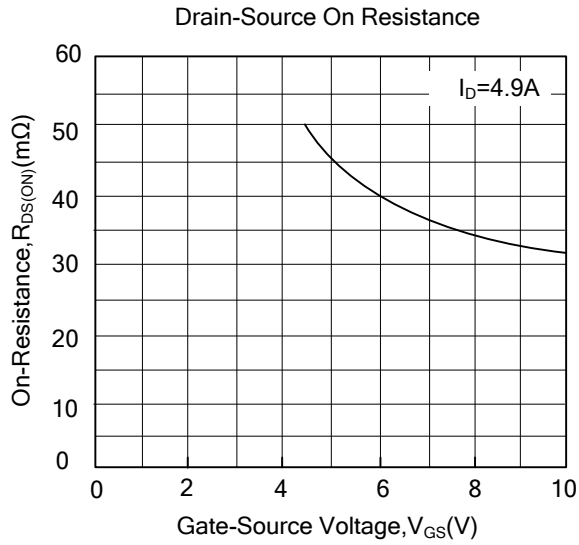
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	50	$^{\circ}\text{C}/\text{W}$

■ 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}	$V_{GS}=0\text{V}, I_D=-250\mu\text{A}$	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-24\text{V}, V_{GS}=0\text{V}$			-1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 25\text{V}$			± 100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=-250\mu\text{A}$	-1	-1.5	-2	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-10\text{V}, I_D=-4.9\text{A}$		53	60	m Ω
		$V_{GS}=-4.5\text{V}, I_D=-3.6\text{A}$		80	95	
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	$V_{DS}=-25\text{V}, V_{GS}=0\text{V}, f=1.0\text{MHz}$		1260		pF
Output Capacitance	C_{OSS}			340		pF
Reverse Transfer Capacitance	C_{RSS}			220		pF
SWITCHING PARAMETERS (Note)						
Turn-ON Delay Time	$t_{D(ON)}$	$V_{GEN}=-10\text{V}, V_{DD}=-15\text{V}, R_L=7.5\Omega, R_G=6\Omega, I_D=-2\text{A}$		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	$V_{DS}=-15\text{V}, V_{GS}=-10\text{V}, I_D=-4.6\text{A}$		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}	$I_{SD}=-1.7\text{A}, V_{GS}=0\text{V}$		-0.7	-1.3	V

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

■ TYPICAL CHARACTERISTICS



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