



UTM4953

Power MOSFET

DUAL P-CHANNEL ENHANCEMENT MODE

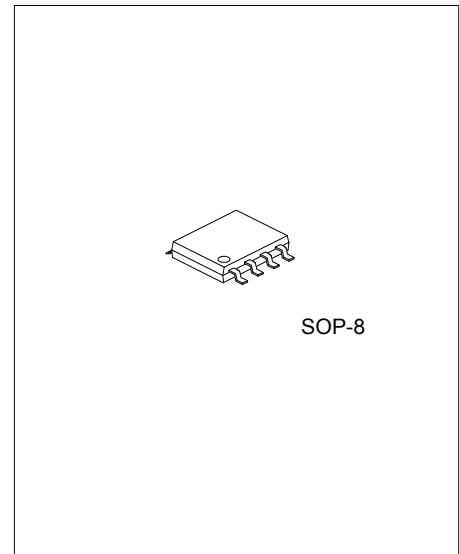
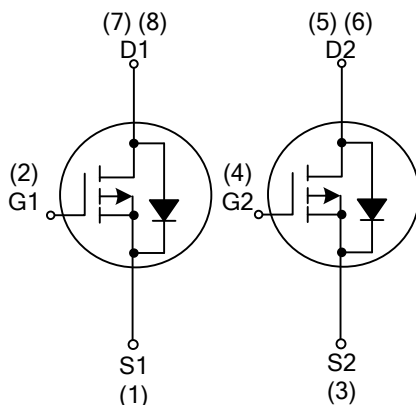
DESCRIPTION

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

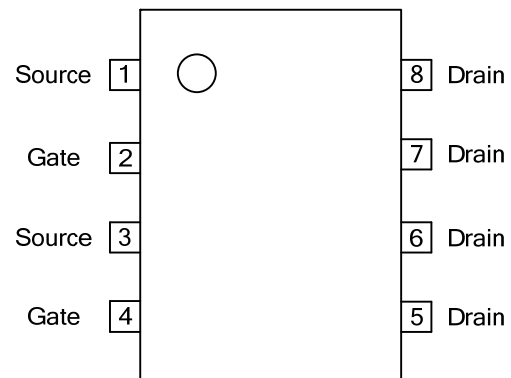


ORDERING INFORMATION

Ordering Number		Package	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** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 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	$^{\circ}\text{C}$
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**

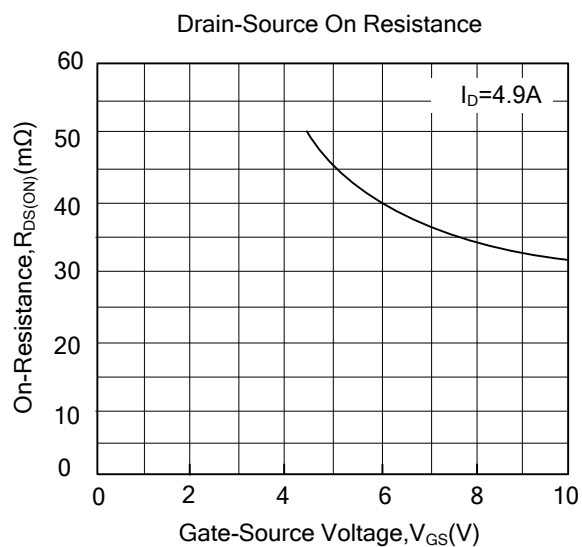
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	50	$^{\circ}\text{C/W}$

■ **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} =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 $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$

■ TYPICAL CHARACTERISTICS



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