



UTM2054

Power MOSFET

N-CHANNEL ENHANCEMENT MODE

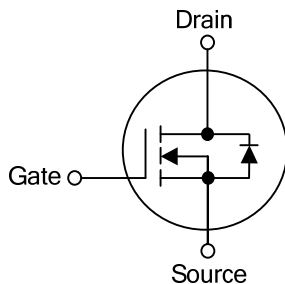
DESCRIPTION

The **UTM2054** uses advanced trench 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

- * $R_{DS(ON)} = 35m\Omega @ V_{GS} = 10V$
- * $R_{DS(ON)} = 45m\Omega @ V_{GS} = 4.5V$
- * $R_{DS(ON)} = 110m\Omega @ V_{GS} = 2.5V$
- * Ultra low gate charge (typical 11.5 nC)
- * Low reverse transfer capacitance ($C_{RSS} =$ typical 60 pF)
- * Fast switching capability
- * Avalanche energy specified
- * Improved dv/dt capability, high ruggedness

SYMBOL

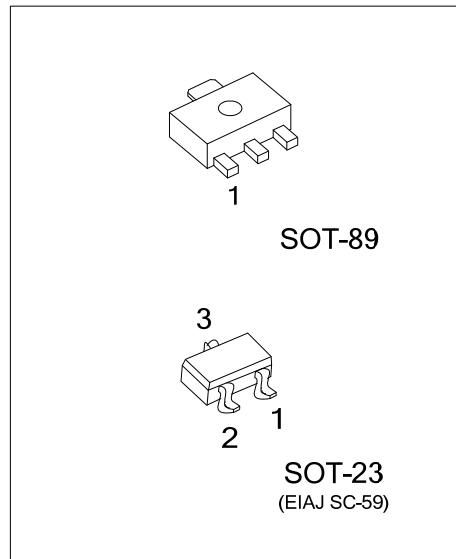
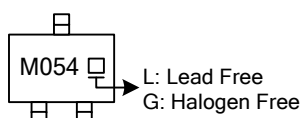


ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UTM2054L-AB3-R	UTM2054G-AB3-R	SOT-89	G	D	S	Tape Reel
UTM2054L-AE3-R	UTM2054G-AE3-R	SOT-23	S	G	D	Tape Reel

<p>UTM2054L-AB3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Plating</p>	<p>(1) R: Tape Reel</p> <p>(2) AB3: SOT-89, AE3: SOT-23</p> <p>(3) L: Lead Free, G: Halogen Free</p>
---	--

MARKING (For SOT-23 Package)



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DSS}	20	V
Gate-Source Voltage	V_{GSS}	± 16	V
Drain Current ($V_{GS}=10\text{V}$)	Continuous	5	A
	Pulsed	20	
Diode Continuous Forward Current	I_S	3	A
Power Dissipation	SOT-89	1.47	W
	SOT-23	1.25	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.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}, I_D=250\mu\text{A}$	20			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=16\text{V}, V_{GS}=0\text{V}$			1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 16\text{V}$			± 100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.6	0.9	1.5	V
Static Drain-Source On-State Resistance (Note)	$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_{DS}=5\text{A}$		35	40	m Ω
		$V_{GS}=4.5\text{V}, I_{DS}=3.5\text{A}$		45	54	
		$V_{GS}=2.5\text{V}, I_{DS}=2.5\text{A}$		110	130	
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	$V_{DS}=15\text{V}, V_{GS}=0\text{V}, f=1.0\text{MHz}$		450		pF
Output Capacitance	C_{OSS}			100		pF
Reverse Transfer Capacitance	C_{RSS}			60		pF
Gate resistance	R_G	$V_{GS}=0\text{V}, V_{DS}=0\text{V}, f=1\text{MHz}$		2.5		Ω
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD}=10\text{V}, R_L=10\Omega, I_{DS}=1\text{A}, V_{GEN}=4.5\text{V}, R_G=6\Omega$		7	10	ns
Turn-On Rise Time	t_R			15	25	ns
Turn-Off Delay Time	$t_{D(OFF)}$			19	26	ns
Turn-Off Fall Time	t_F			6	7	ns
Total Gate Charge	Q_G	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_{DS}=5\text{A}$		11.5	15	nC
Gate-Source Charge	Q_{GS}			3.8		nC
Gate-Drain Charge	Q_{DD}			5.2		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Diode Forward Voltage (Note)	V_{SD}	$I_{SD}=3\text{A}, V_{GS}=0\text{V}$		0.7	1.3	V

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

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [MOSFET](#) category:

Click to view products by [Unisonic](#) manufacturer:

Other Similar products are found below :

[614233C](#) [648584F](#) [IRFD120](#) [IRFF430](#) [JANTX2N5237](#) [2N7000](#) [FCA20N60_F109](#) [FDZ595PZ](#) [2SK2267\(Q\)](#) [2SK2545\(Q,T\)](#) [405094E](#)
[423220D](#) [MIC4420CM-TR](#) [VN1206L](#) [614234A](#) [715780A](#) [SSM6J414TU,LF\(T](#) [751625C](#) [PSMN4R2-30MLD](#) [TK31J60W5,S1VQ\(O](#)
[2SK2614\(Te16L1,Q\)](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#) [FCAB21350L1](#) [P85W28HP2F-7071](#) [DMN1053UCP4-7](#) [NTE2384](#) [NTE2969](#)
[NTE6400A](#) [DMN61D9UWQ-13](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [SSM6P54TU,LF](#) [DMP22D4UFO-7B](#) [IPS60R3K4CEAKMA1](#)
[DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [STU5N65M6](#) [C3M0021120D](#) [DMN13M9UCA6-7](#) [BSS340NWH6327XTSA1](#)
[MCM3400A-TP](#) [DMTH10H4M6SPS-13](#) [IPS60R1K0PFD7SAKMA1](#) [IPS60R360PFD7SAKMA1](#) [IPS60R600PFD7SAKMA1](#)
[IPS60R210PFD7SAKMA1](#) [DMN2990UFB-7B](#) [ISZ040N03L5ISATMA1](#)