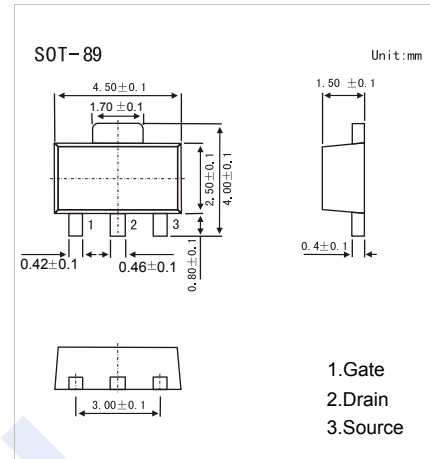
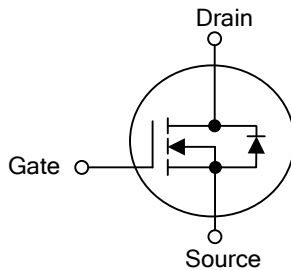


## N-Channel MOSFET

### UTM2054 (KTM2054)

#### ■ Features

- $V_{DS} = 20V$
- $I_D = 5 A$  ( $V_{GS} = 10V$ )
- $R_{DS(ON)} < 40m\Omega$  ( $V_{GS} = 10V$ )
- $R_{DS(ON)} < 54m\Omega$  ( $V_{GS} = 4.5V$ )
- $R_{DS(ON)} < 130m\Omega$  ( $V_{GS} = 2.5V$ )
- Fast switching capability



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 16$	
Continuous Drain Current	$I_D$	5	A
Pulsed Drain Current	$I_{DM}$	20	
Power Dissipation	$P_D$	1.47	W
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 to 150	

## N-Channel MOSFET

### UTM2054 (KTM2054)

#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{DS}$	$I_D=250\ \mu\text{A}$ , $V_{GS}=0\text{V}$	20			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=16\text{V}$ , $V_{GS}=0\text{V}$			1	$\mu\text{A}$
Gate-Body Leakage Current	$I_{GSS}$	$V_{DS}=0\text{V}$ , $V_{GS}=\pm 16\text{V}$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ , $I_D=250\ \mu\text{A}$	0.6		1.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$ , $I_D=5\text{A}$ (Note.1)			40	m $\Omega$
		$V_{GS}=4.5\text{V}$ , $I_D=3.5\text{A}$ (Note.1)			54	
		$V_{GS}=2.5\text{V}$ , $I_D=2.5\text{A}$ (Note.1)			130	
Input Capacitance	$C_{iss}$	$V_{GS}=0\text{V}$ , $V_{DS}=15\text{V}$ , $f=1\text{MHz}$		450		pF
Output Capacitance	$C_{oss}$			100		
Reverse Transfer Capacitance	$C_{rss}$			60		
Gate Resistance	$R_g$	$V_{GS}=0\text{V}$ , $V_{DS}=0\text{V}$ , $f=1\text{MHz}$		2.5		$\Omega$
Total Gate Charge	$Q_g$	$V_{GS}=4.5\text{V}$ , $V_{DS}=10\text{V}$ , $I_D=5\text{A}$		11.5	15	nC
Gate Source Charge	$Q_{gs}$			3.8		
Gate Drain Charge	$Q_{gd}$			5.2		
Turn-On DelayTime	$t_{d(on)}$	$V_{DD}=10\text{V}$ , $R_L=10\Omega$ , $I_{DS}=1\text{A}$ , $V_{GEN}=4.5\text{V}$ , $R_G=6\Omega$			10	ns
Turn-On Rise Time	$t_r$				25	
Turn-Off DelayTime	$t_{d(off)}$				26	
Turn-Off Fall Time	$t_f$				7	
Diode Forward Voltage	$V_{SD}$	$I_S=3\text{A}$ , $V_{GS}=0\text{V}$ (Note.1)			1.3	V

Note.1: Pulse width  $\leq 300\mu\text{s}$ , Duty cycle  $\leq 2\%$

#### ■ Marking

Marking	AB3
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