



UTM2513

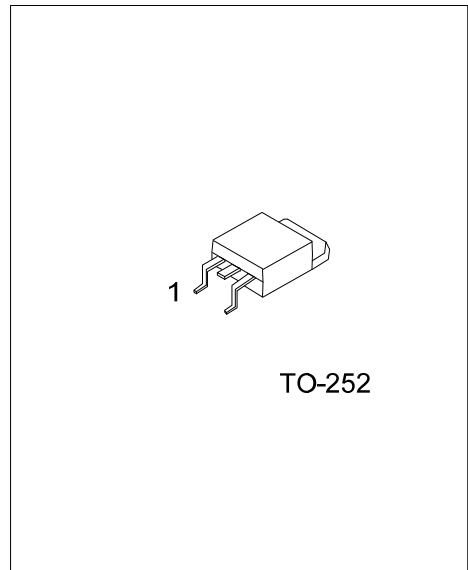
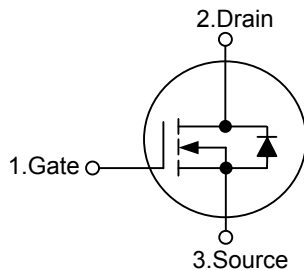
Power MOSFET

N-CHANNEL ENHANCEMENT MODE

■ FEATURES

- * $R_{DS(ON)} = 10.5m\Omega$ (typ.) @ $V_{GS} = 10\text{ V}$
- * $R_{DS(ON)} = 16m\Omega$ (typ.) @ $V_{GS} = 4.5\text{ V}$
- * Low capacitance
- * Optimized gate charge
- * Fast switching capability
- * Avalanche energy specified

■ SYMBOL



Lead-free: UTM2513L
Halogen-free: UTM2513G

■ ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free Plating	Halogen Free		1	2	3	
UTM2513-TN3-R	UTM2513L-TN3-R	UTM2513G-TN3-R	TO-252	G	D	S	Tape Reel
UTM2513-TN3-T	UTM2513L-TN3-T	UTM2513G-TN3-T	TO-252	G	D	S	Tube

UTM2513L-TN3-R	(1)Packing Type	(1) R: Tape Reel, T: Tube
	(2)Package Type	(2) TN3: TO-252
	(3)Lead Plating	(3) G: Halogen Free, L: Lead Free Plating, Blank: Pb/Sn

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

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DS}	25	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	40	A
Pulsed Drain Current	I_{DM}	90	A
Power Dissipation	P_D	50	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

Note: 1. 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.

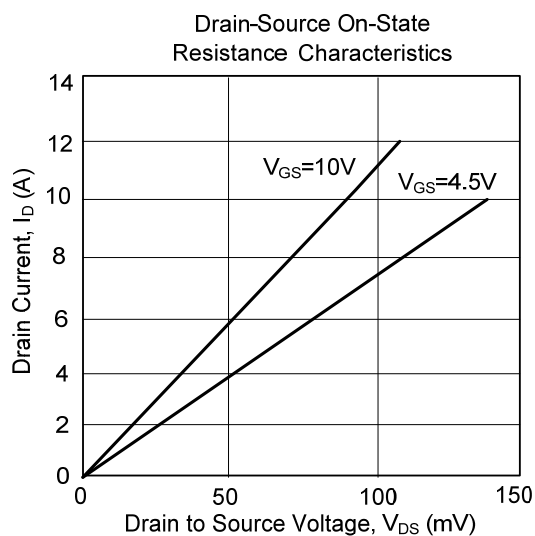
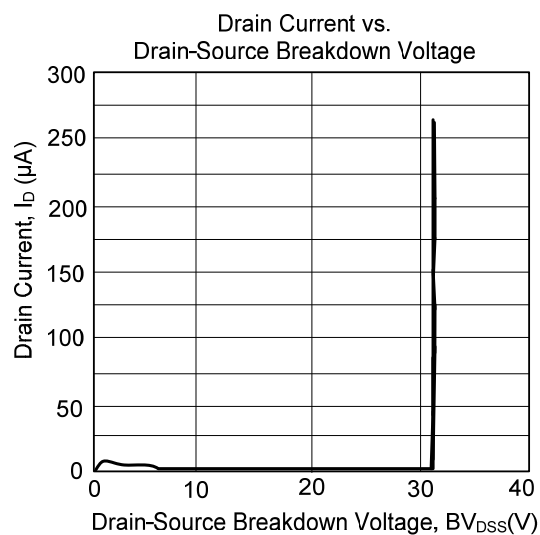
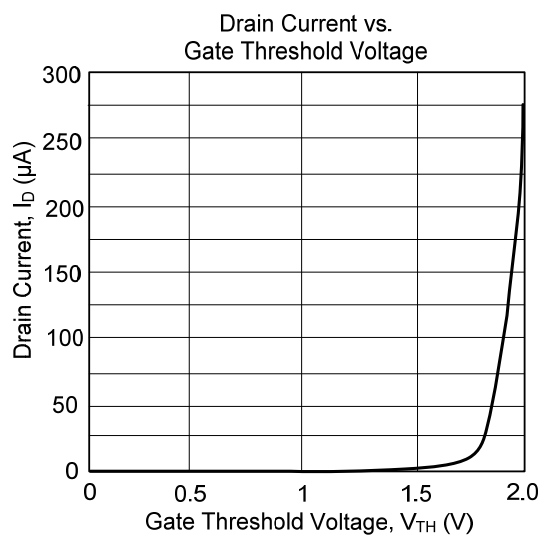
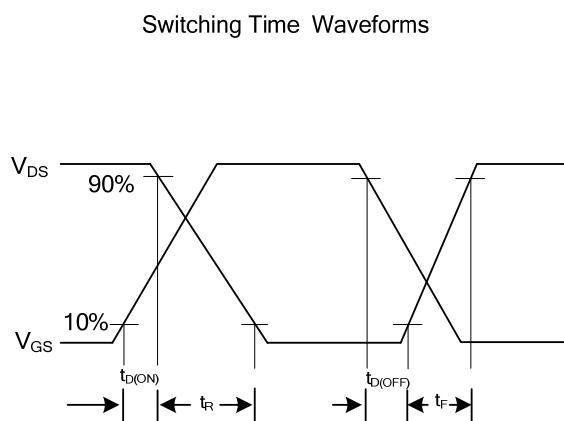
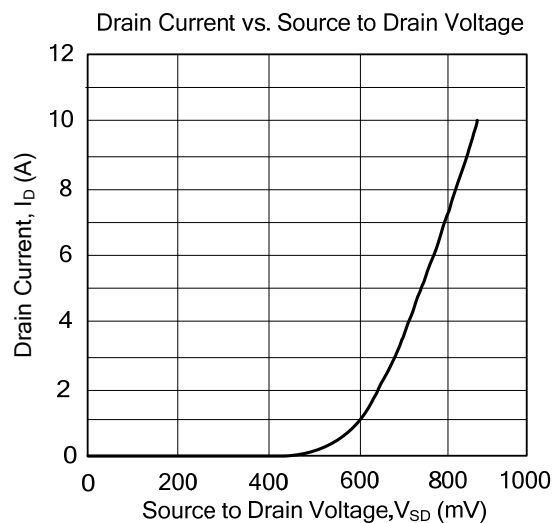
2. Pulse width limited by $T_{J(MAX)}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _{DS} =250μA	25			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =24V, V _{GS} =0V			1	μA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _{DS} =250μA	1.30	1.80	2.50	V
Drain-Source On-State Resistance(Note)	R _{DS(ON)}	V _{GS} =10V, I _{DS} =12A		10.5	13	mΩ
		V _{GS} =4.5V, I _{DS} =10A		16	23	
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{ISS}	V _{DS} =15V, V _{GS} =0V, f=1.0MHz		1560		pF
Output Capacitance	C _{OSS}			345		pF
Reverse Transfer Capacitance	C _{RSS}			245		pF
SWITCHING CHARACTERISTICS						
Turn-ON Delay Time (Note)	t _{D(ON)}	I _{DS} =1A, V _{DD} =15V, R _G =3Ω,		30	35	ns
Turn-ON Rise Time	t _R			60	67	ns
Turn-OFF Delay Time	t _{D(OFF)}			272	285	ns
Turn-OFF Fall Time	t _F			168	172	ns
Total Gate Charge (Note)	Q _G	V _{DS} =15V, V _{GS} =10V, I _{DS} =10A		28	38	nC
Gate-Source Charge	Q _{GS}			3.6		nC
Gate-Drain Charge	Q _{GD}			8.4		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage(Note)	V _{SD}	I _{SD} =10A, V _{GS} =0V		0.9	1.3	V

Note: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$

TYPICAL CHARACTERISTICS



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