

**UT6354-H****Power MOSFET****-4A, -60V P-CHANNEL
SILICON MOSFET****DESCRIPTION**

The UTC **UT6354-H** is a P-Channel Silicon MOSFET, it uses UTC's advanced technology to provide the customers with a minimum on state resistance and low gate charge, etc.

The UTC **UT6354-H** is suitable for general-purpose switching device applications.

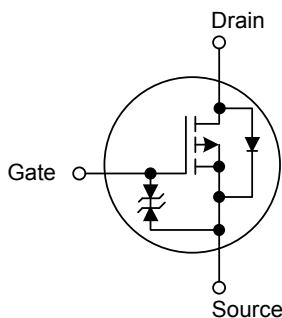
FEATURES

* $R_{DS(ON)} \leq 100 \text{ m}\Omega$ @ $V_{GS} = -10\text{V}$, $I_D = -2.0\text{A}$

$R_{DS(ON)} \leq 135 \text{ m}\Omega$ @ $V_{GS} = -4.5\text{V}$, $I_D = -1.0\text{A}$

$R_{DS(ON)} \leq 145 \text{ m}\Omega$ @ $V_{GS} = -4.0\text{V}$, $I_D = -1.0\text{A}$

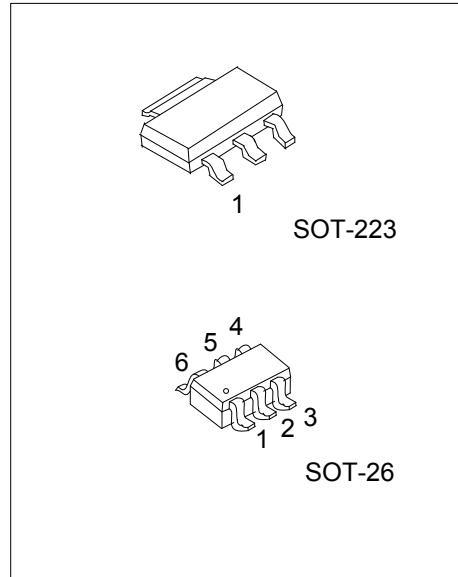
* Low gate charge

SYMBOL**ORDERING INFORMATION**

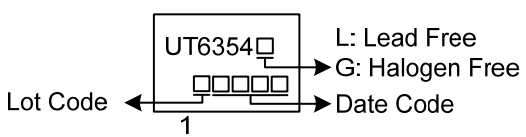
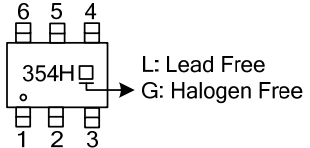
Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
UT6354L-AA3-R	UT6354G-AA3-R	SOT-223	G	D	S	-	-	-	Tape Reel
UT6354L-AG6-R	UT6354G-AG6-R	SOT-26	D	D	G	S	D	D	Tape Reel

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

UT6354G-AA3-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AA3: SOT-223, AG6: SOT-26
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free



MARKING

SOT-223	SOT-26
 The diagram shows a SOT-223 package with the marking 'UT6354' on the top face. Below it, four small squares represent the Lot Code, and four more small squares represent the Date Code. To the right, 'L: Lead Free' and 'G: Halogen Free' are indicated. A '1' is shown at the bottom of the package.	 The diagram shows a SOT-26 package with the marking '354H' on the top face. To the right, 'L: Lead Free' and 'G: Halogen Free' are indicated. The package has six pins numbered 1 through 6.

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

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	-60	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	Continuous	I_D	-4	A
	Pulsed (Note 2)	I_{DM}	-16	A
Avalanche Energy	Single Pulsed (Note 3)	E_{AS}	16	mJ
Power Dissipation	SOT-223	P_D	1.5	W
	SOT-26		1.3	W
Junction Temperature		T_J	+150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-55 ~ +150	$^\circ\text{C}$

Notes: 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. Repetitive Rating: Pulse width limited by maximum junction temperature.

3. $L = 0.1\text{mH}$, $I_{AS} = -18.3\text{A}$, $V_{DD} = -50\text{V}$, $R_G = 25\ \Omega$ Starting $T_J = 25^\circ\text{C}$

■ **THERMAL DATA**

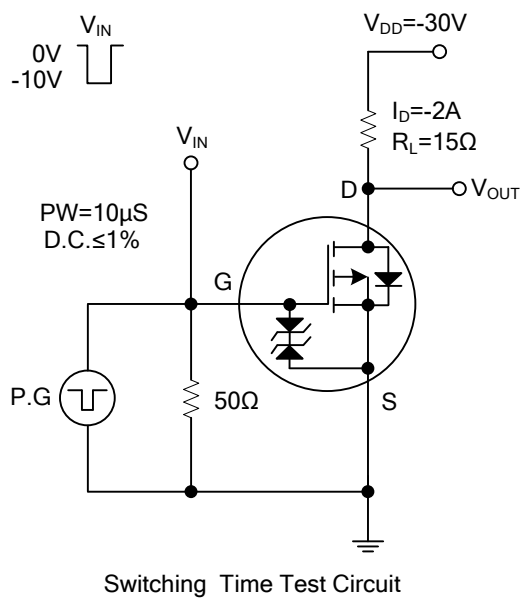
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-223	θ_{JA}	83	$^\circ\text{C/W}$
	SOT-26		96	$^\circ\text{C/W}$

Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

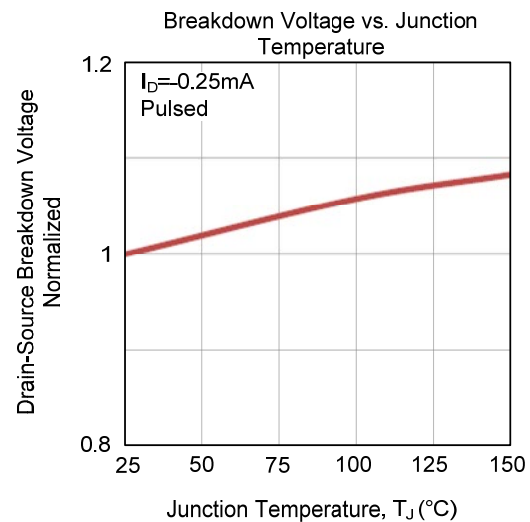
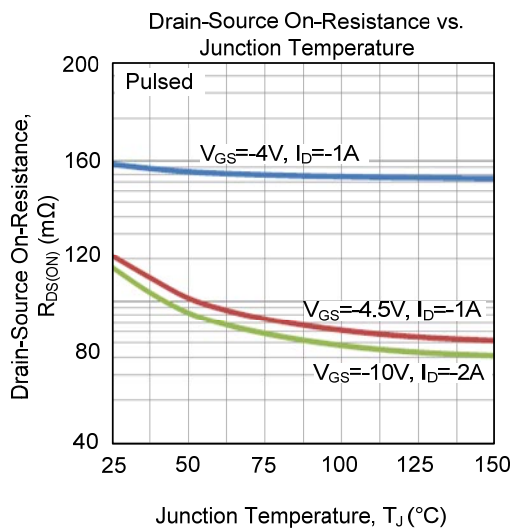
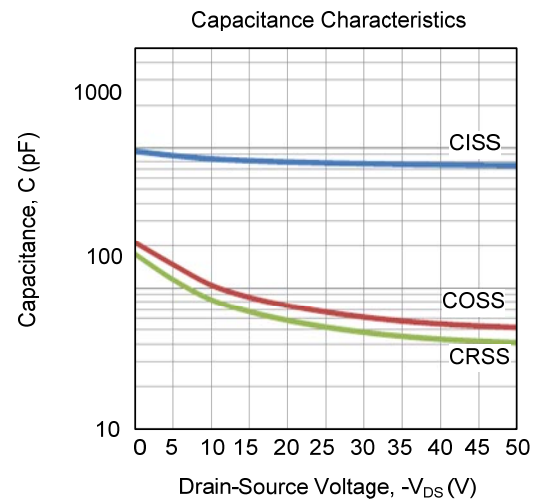
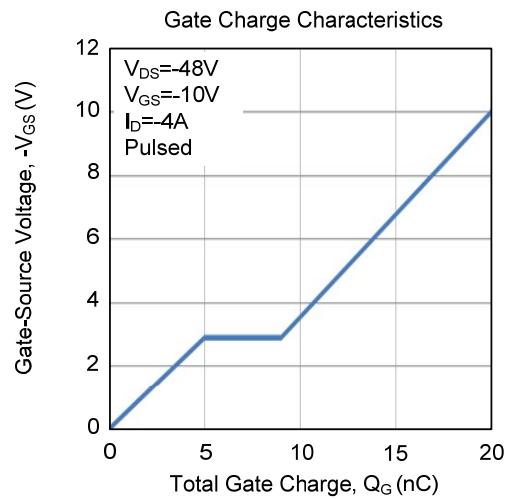
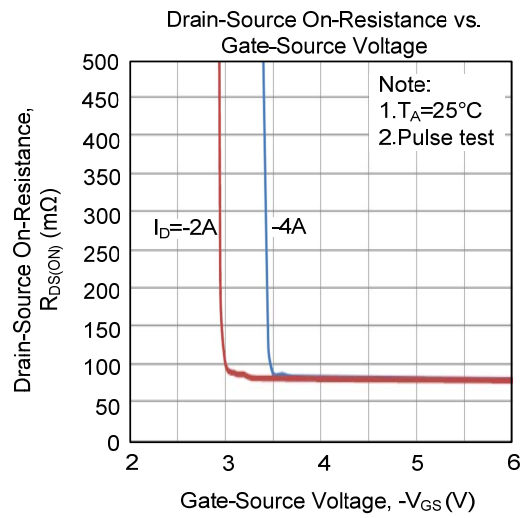
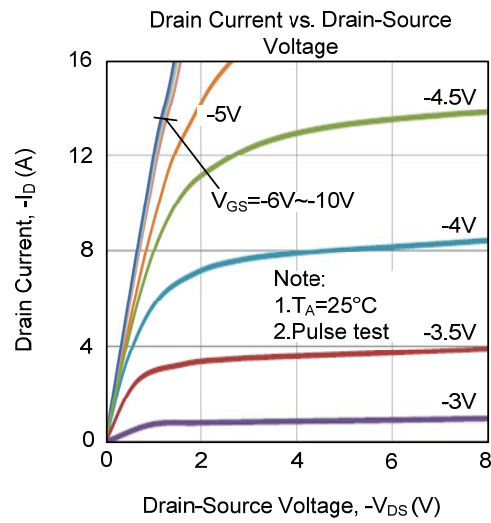
■ **ELECTRICAL CHARACTERISTICS** ($T_A = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=-1\text{mA}$, $V_{GS}=0\text{V}$	-60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60\text{V}$, $V_{GS}=0\text{V}$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16\text{V}$, $V_{DS}=0\text{V}$			± 10	μA
ON CHARACTERISTICS						
Cutoff Voltage	$V_{GS(OFF)}$	$V_{DS}=-10\text{V}$, $I_D=-1\text{mA}$	-1.2		-2.6	V
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=-10\text{V}$, $I_D=-2.0\text{A}$		77	100	$\text{m}\Omega$
		$V_{GS}=-4.5\text{V}$, $I_D=-1.0\text{A}$		96	135	$\text{m}\Omega$
		$V_{GS}=-4.0\text{V}$, $I_D=-1.0\text{A}$		103	145	$\text{m}\Omega$
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	$V_{DS}=-20\text{V}$, $f=1.0\text{MHz}$		800		pF
Output Capacitance	C_{OSS}			75		pF
Reverse Transfer Capacitance	C_{RSS}			58		pF
SWITCHING PARAMETERS						
Total Gate Charge	Q_G	$V_{DS}=-48\text{V}$, $V_{GS}=-10\text{V}$, $I_D=-4\text{A}$ $I_G=-1\text{mA}$		20		nC
Gate to Source Charge	Q_{GS}			5		nC
Gate to Drain Charge	Q_{GD}			4		nC
Turn-ON Delay Time	$t_{D(ON)}$	$V_{DS}=-30\text{V}$, $V_{GS}=-10\text{V}$, $I_D=-4\text{A}$ $R_G=3\Omega$		6		ns
Rise Time	t_R			16		ns
Turn-OFF Delay Time	$t_{D(OFF)}$			26		ns
Fall-Time	t_F			18		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Diode Forward Voltage	V_{SD}	$I_S=-4\text{A}$, $V_{GS}=0\text{V}$		-0.84	-1.2	V

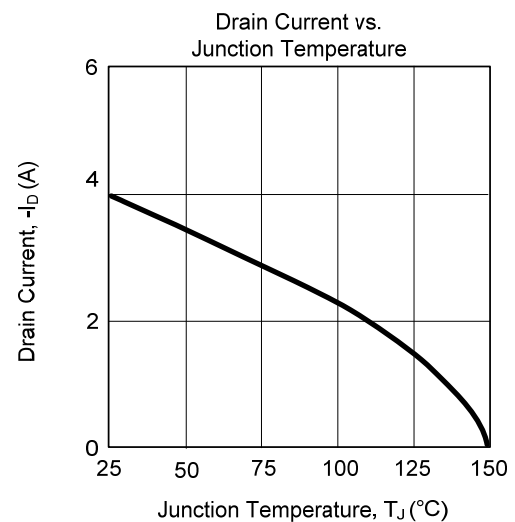
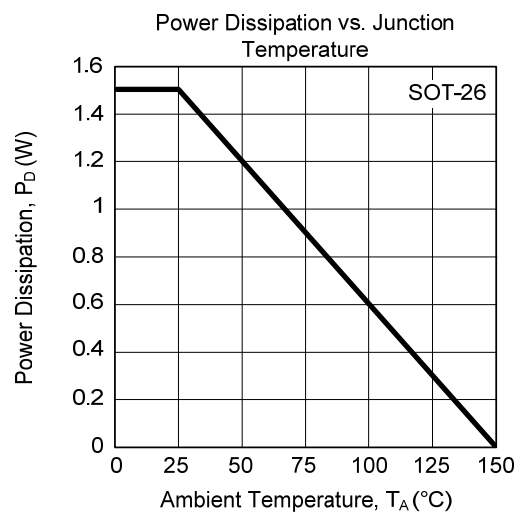
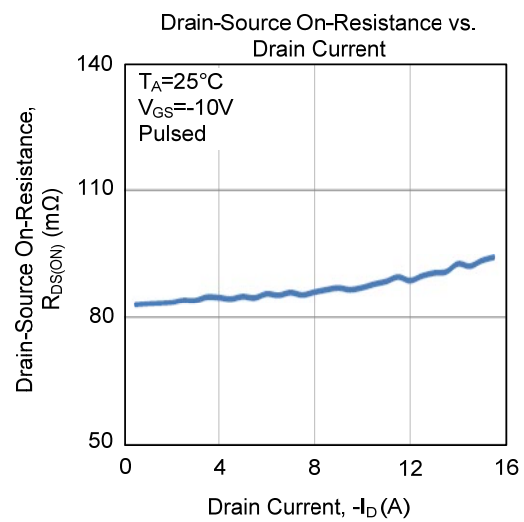
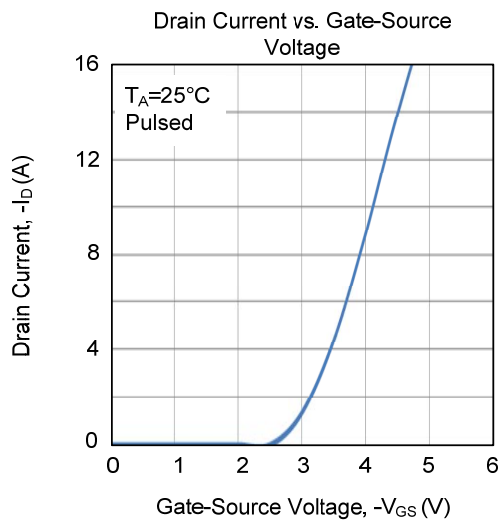
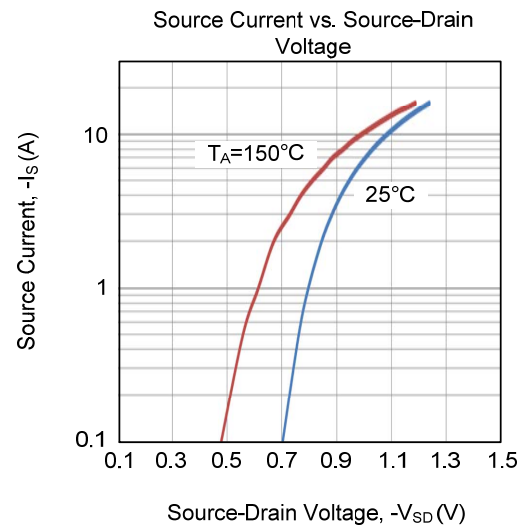
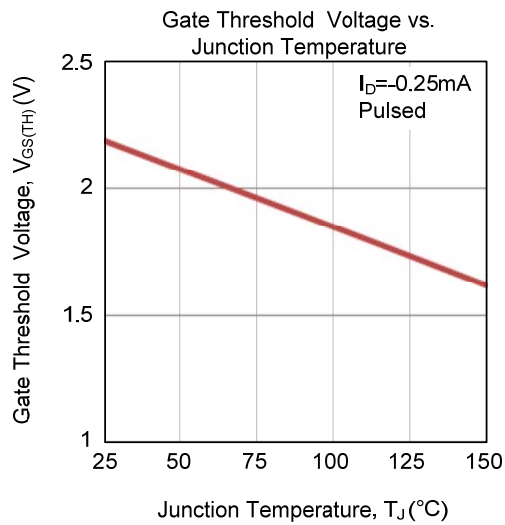
■ TEST CIRCUITS AND WAVEFORMS



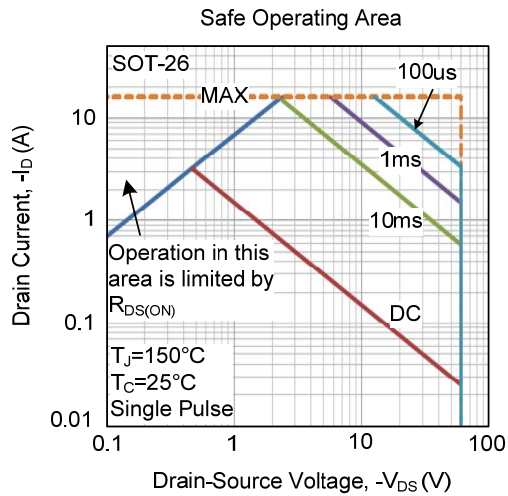
TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



■ TYPICAL CHARACTERISTICS (Cont.)



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