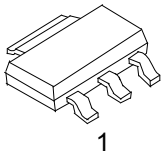
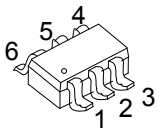
UT6354-H

Power MOSFET

-4A, -60V P-CHANNEL SILICON MOSFET



SOT-223



SOT-26

■ DESCRIPTION

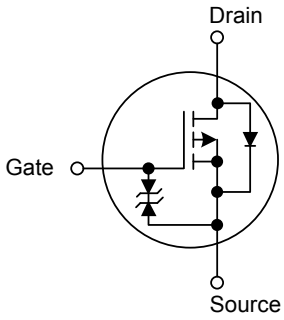
The UTC **UT6354-H** is a P-Channel Silicon MOSFET, it uses UTC's advanced technology to provide the customers with a minimum on state resistance and low gate charge, etc.

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

■ FEATURES

* $R_{DS(ON)}$ ≤ 100mΩ @ V_{GS}=-10V, I_D=-2.0A
* Low gate charge

■ SYMBOL



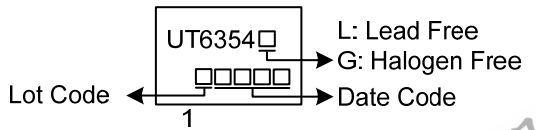
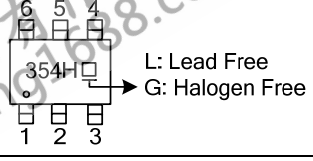
■ ORDERING INFORMATION

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

■ MARKING

SOT-223	SOT-26
	

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

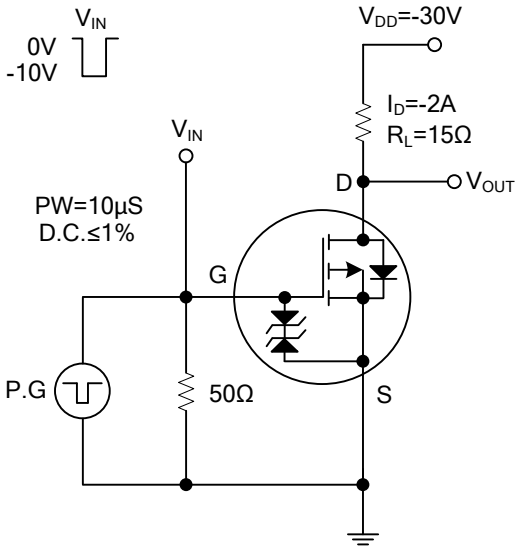
PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	-60	V
Gate-Source Voltage		V_{GSS}	±20	V
Drain Current (DC)		I_D	-4	A
Drain Current (Pulse)	P_W≤10μs Duty Cycle≤1%	I_{DP}	-16	A
Allowable Power Dissipation (When Mounted on Ceramic Substrate (1500mm^2×0.8mm))	SOT-223	P_D	2.3	W
	SOT-26		1.6	W
Junction Temperature		T_J	+150	°C
Storage Temperature Range		T_{STG}	-55 ~ +150	°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°C unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=-1mA, V_{GS}=0V	-60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-60V, V_{GS}=0V			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±16V,V_{DS}=0V			±10	μA
ON CHARACTERISTICS						
Cutoff Voltage	$V_{GS(OFF)}$	V_{DS}=-10V, I_D=-1mA	-1.2		-2.6	V
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-2A		77	100	mΩ
		V_{GS}=-4.5V, I_D=-1A		96	135	mΩ
		V_{GS}=-4V, I_D=-1A		103	145	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	V_{DS}=-20V, f=1.0MHz		950		pF
Output Capacitance	C_{OSS}			60		pF
Reverse Transfer Capacitance	C_{RSS}			40		pF
SWITCHING PARAMETERS						
Total Gate Charge	Q_G	V_{DS}=-48V, V_{GS}=-10V, I_D=-4A I_G=-1mA		18		nC
Gate to Source Charge	Q_{GS}			3		nC
Gate to Drain Charge	Q_{GD}			2		nC
Turn-ON Delay Time	$t_{D(ON)}$	V_{DS}=-30V, V_{GS}=-10V, I_D=-4A R_G=25Ω		15		ns
Rise Time	t_R			17		ns
Turn-OFF Delay Time	$t_{D(OFF)}$			93		ns
Fall-Time	t_F			50		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Diode Forward Voltage	V_{SD}	I_S=-4A,V_{GS}=0V		-0.84	-1.2	V

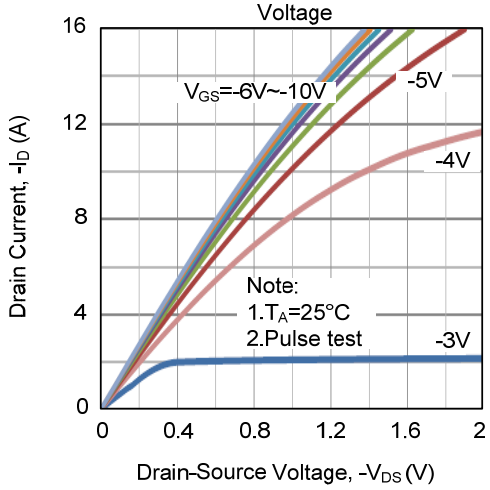
■ TEST CIRCUITS AND WAVEFORMS



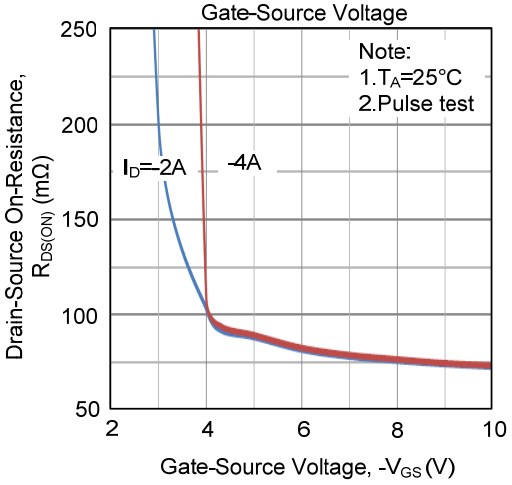
Switching Time Test Circuit

■ TYPICAL CHARACTERISTICS

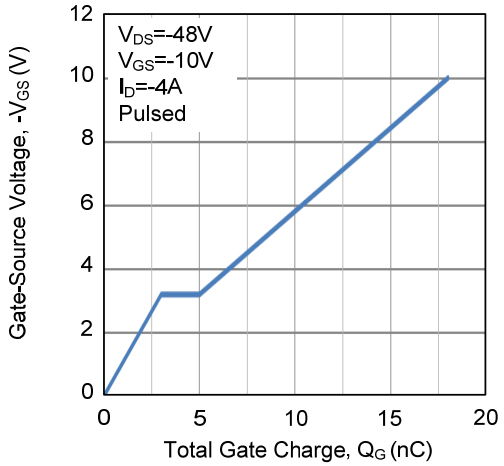
Drain Current vs. Drain-Source Voltage



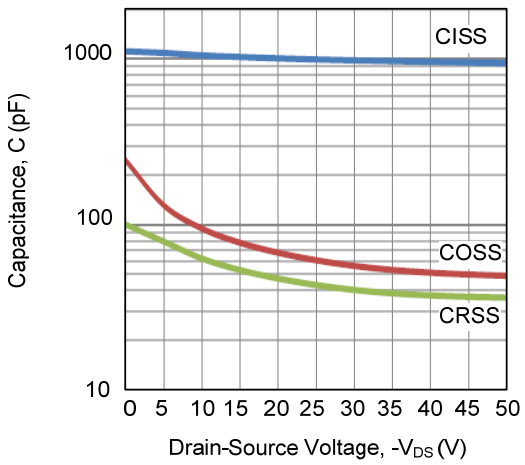
Drain-Source On-Resistance vs. Gate-Source Voltage



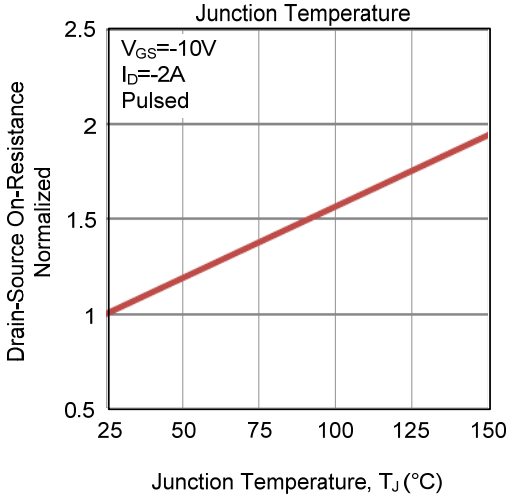
Gate Charge Characteristics



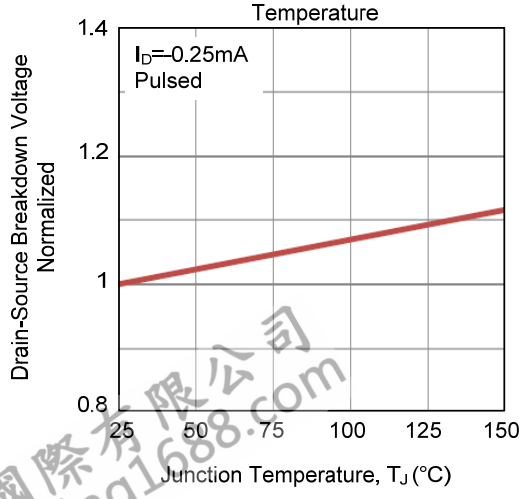
Capacitance Characteristics



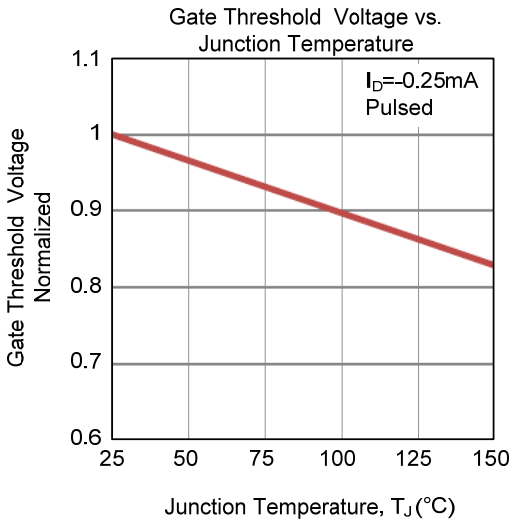
Drain-Source On-Resistance vs. Junction Temperature

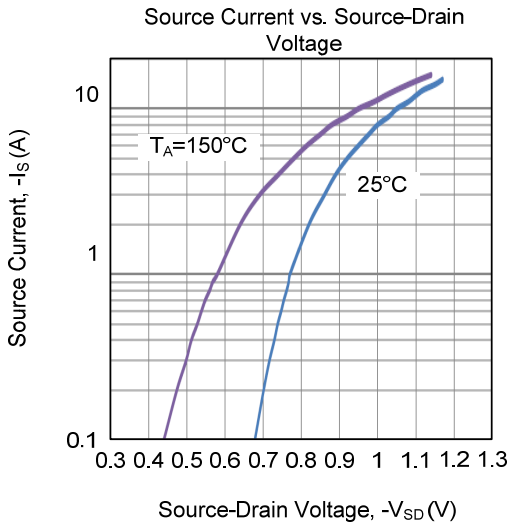


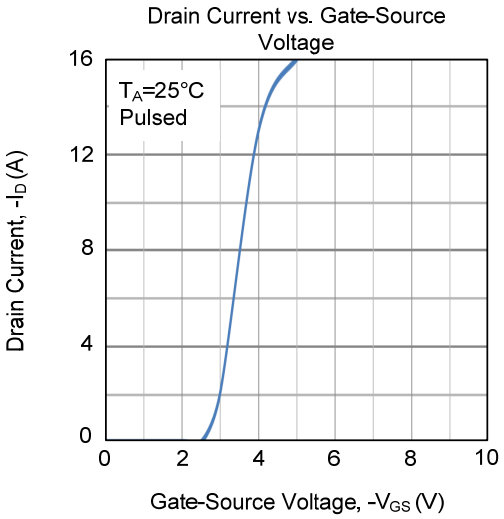
Breakdown Voltage vs. Junction Temperature

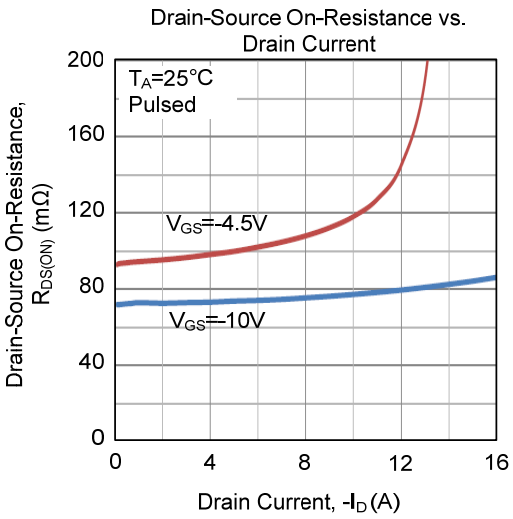


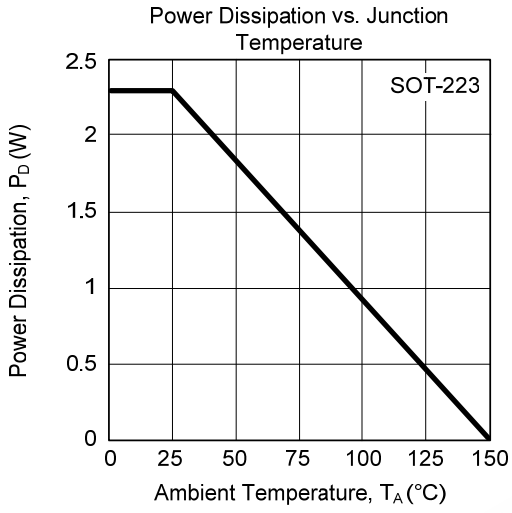
■ TYPICAL CHARACTERISTICS (Cont.)

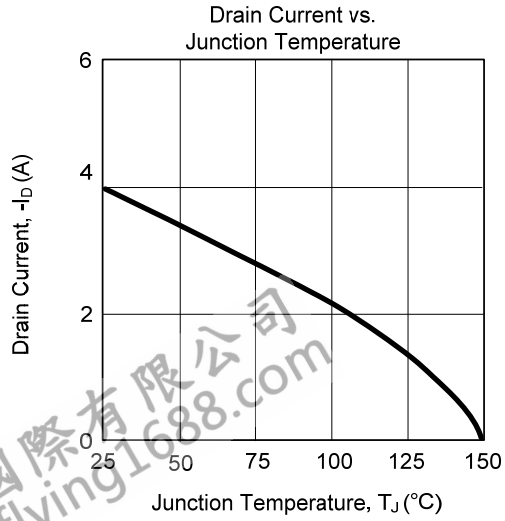












■ TYPICAL CHARACTERISTICS (Cont.)