



UT2352

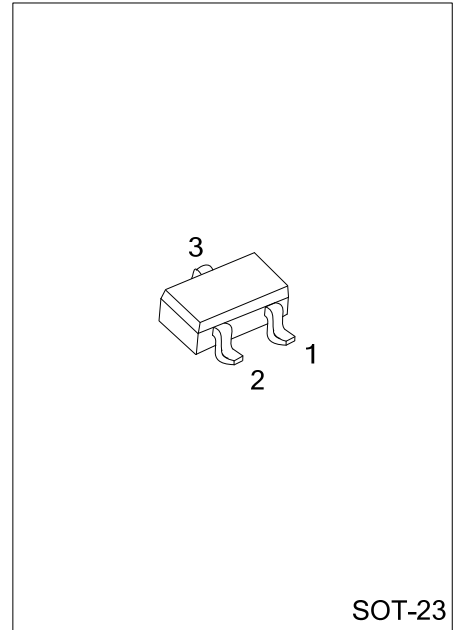
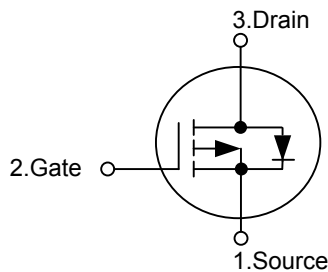
Power MOSFET

P-CHANNEL ENHANCEMENT MODE

DESCRIPTION

As P-Channel Logic Level MOSFET, **UT2352** has been optimized for battery power management applications. And it's produced using UTC's advanced Power Trench process.

SYMBOL

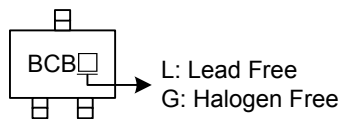


ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UT2352L-AE3-R	UT2352G-AE3-R	SOT-23	S	G	D	Tape Reel

<p>UT2352L-AE3-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) AE3: SOT-23</p> <p>(3) G: Halogen Free, L: Lead Free</p>
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MARKING



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

PARAMETER	SYMBOL	RATING	UNITS
Drain-Source Voltage	V_{DSS}	-30	V
Gate-Source Voltage	V_{GSS}	± 25	V
Continuous Drain Current	I_D	-1.3	A
Pulsed Drain Current	I_{DM}	-10	A
Power Dissipation (Note 3)	P_D	0.46	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.

■ THERMAL DATA

PARAMETER	SYMBOL	RATING	UNIT
Junction-to-Ambient (Note 3)	θ_{JA}	250	$^\circ\text{C/W}$
Junction-to-Case	θ_{JC}	75	$^\circ\text{C/W}$

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

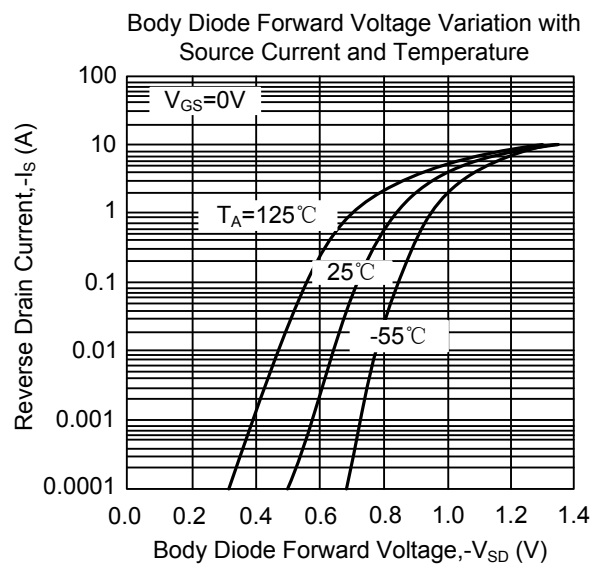
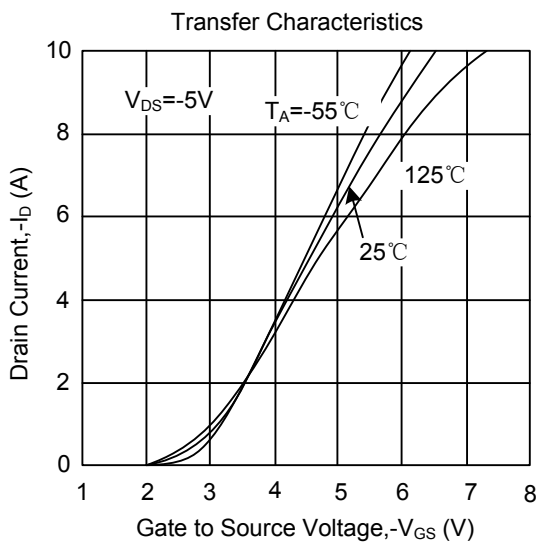
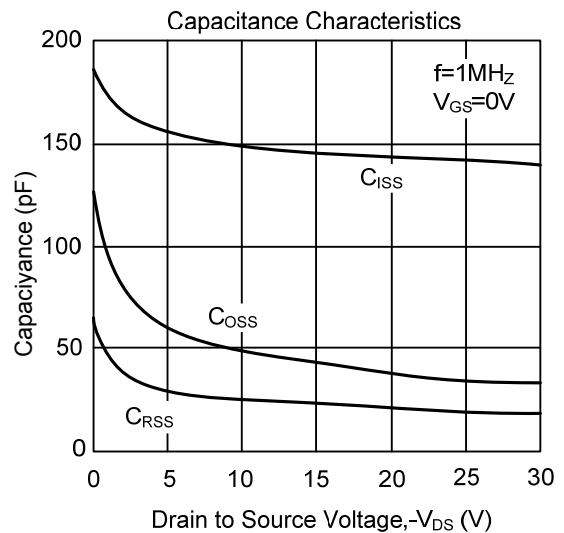
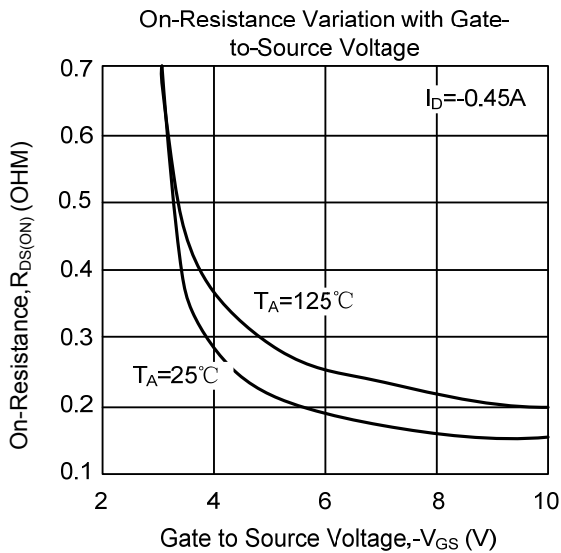
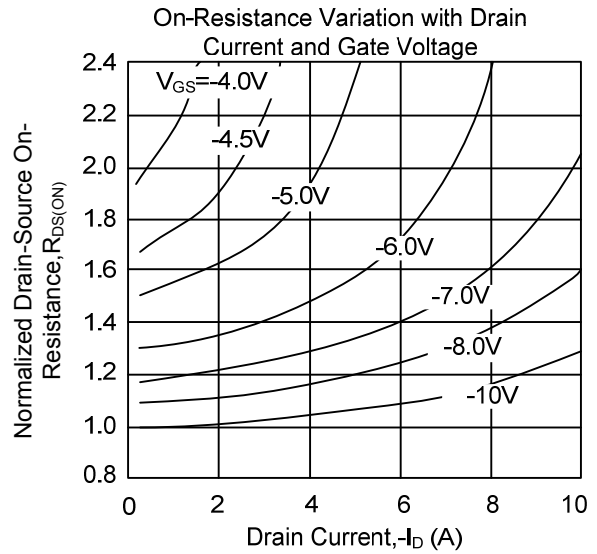
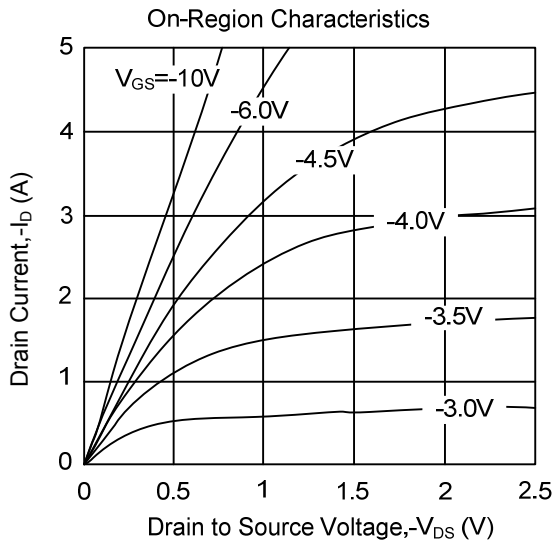
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-30			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=-24V, V_{GS}=0V$			-1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 25V, V_{DS}=0V$			± 100	nA
Breakdown Voltage Temperature Coefficient	$\Delta BV_{DSS}/\Delta T_J$	Reference to $25^\circ\text{C}, I_D=-250\mu A$		-17		$mV/^\circ\text{C}$
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.8	-2.0	-2.5	V
Drain-Source On-State Resistance (Note 2)	$R_{DS(ON)}$	$V_{GS}=-10V, I_D=-1.3A$		150	180	$m\Omega$
		$V_{GS}=-4.5V, I_D=-1.1A$		250	300	$m\Omega$
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	$V_{GS}=0V, V_{DS}=-15V, f=1\text{MHz}$		150		pF
Output Capacitance	C_{OSS}			40		pF
Reverse Transfer Capacitance	C_{RSS}			20		pF
SWITCHING CHARACTERISTICS						
Turn-ON Delay Time (Note 2)	$t_{D(ON)}$	$V_{DD}=-10V, V_{GS}=-10V, I_D=-1A, R_G=6\Omega$		4	8	ns
Turn-ON Rise Time	t_R			15	28	ns
Turn-OFF Delay Time	$t_{D(OFF)}$			10	18	ns
Turn-OFF Fall Time	t_F			1	2	ns
Total Gate Charge	Q_G	$V_{DS}=-10V, V_{GS}=-4.5V, I_D=-0.9A$		1.4	1.9	nC
Gate-Source Charge	Q_{GS}			0.5		nC
Gate-Drain Charge	Q_{GD}			0.5		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage(Note2)	V_{SD}	$V_{GS}=0V, I_S=-0.42 A$		-0.8	-1.2	V
Maximum Continuous Drain Source Diode Forward Current	I_S				-0.42	A
Reverse Recovery Time	t_{RR}	$I_F = -3.9 A, di_F/dt = 100 A/\mu s$		17		ns
Reverse Recovery Charge	Q_{RR}			7		nC

Notes: 1. Pulse width limited by $T_{J(MAX)}$

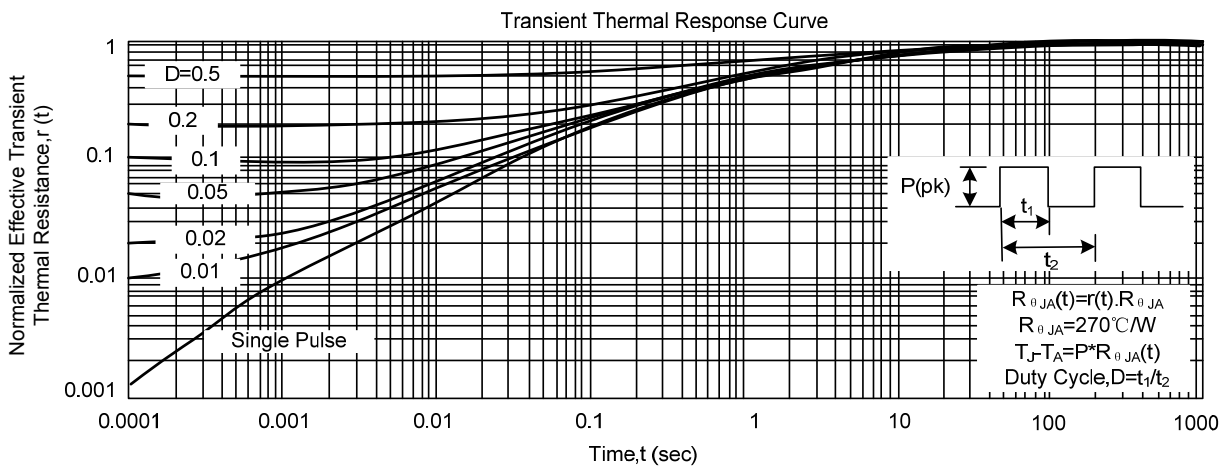
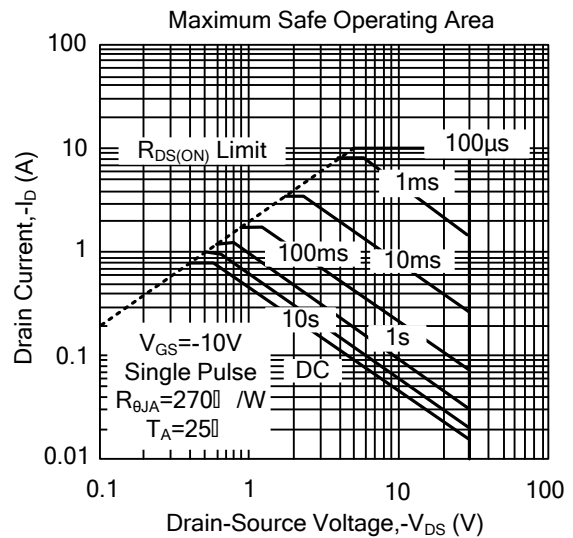
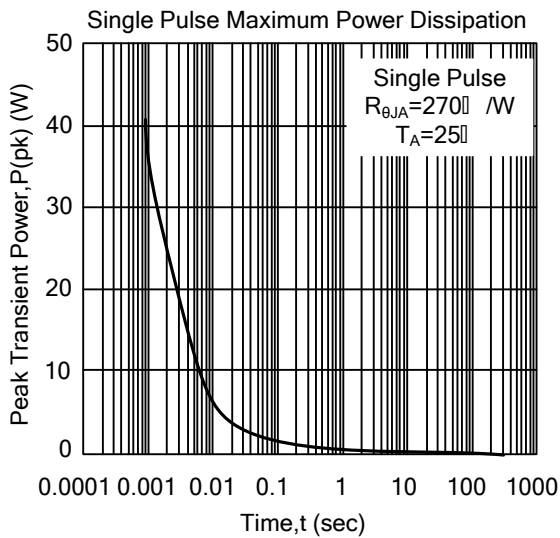
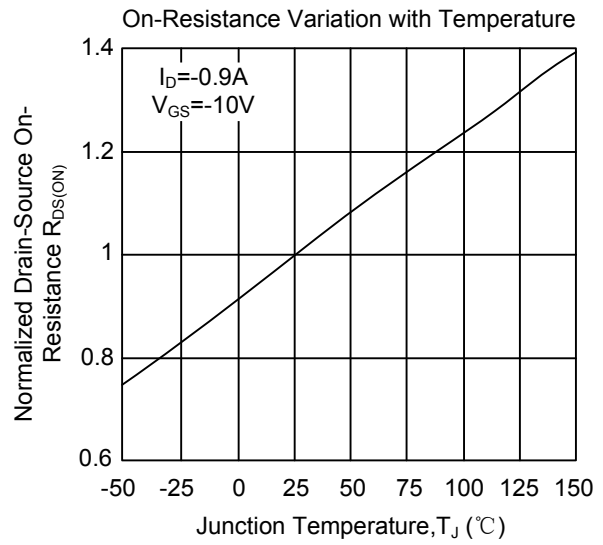
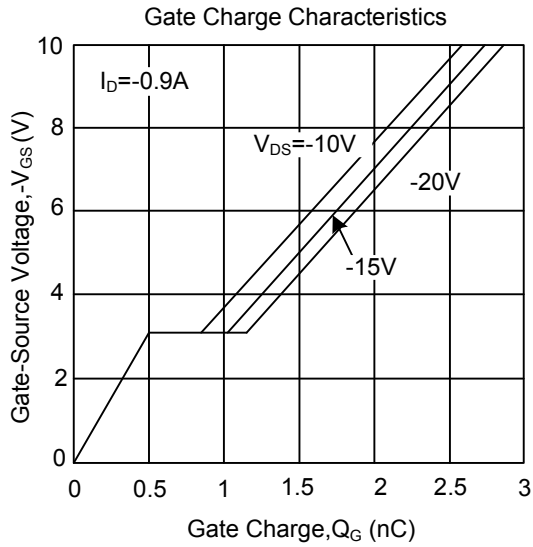
2. Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

3. Surface mounted on 0.001 in^2 pad of 2oz. copper; 270°C/W when mounted on min.

TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS (Cont.)



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