



UT2352

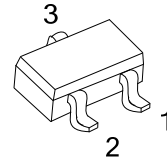
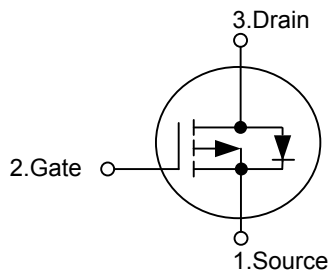
Power MOSFET

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



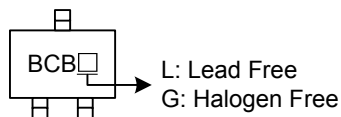
SOT-23

■ 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

UT2352L-AE3-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AE3: SOT-23
	(3)Lead Plating	(3) G: Halogen Free, L: Lead Free

■ MARKING



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

PARAMETER	SYMBOL	RATING	UNITS
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 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)

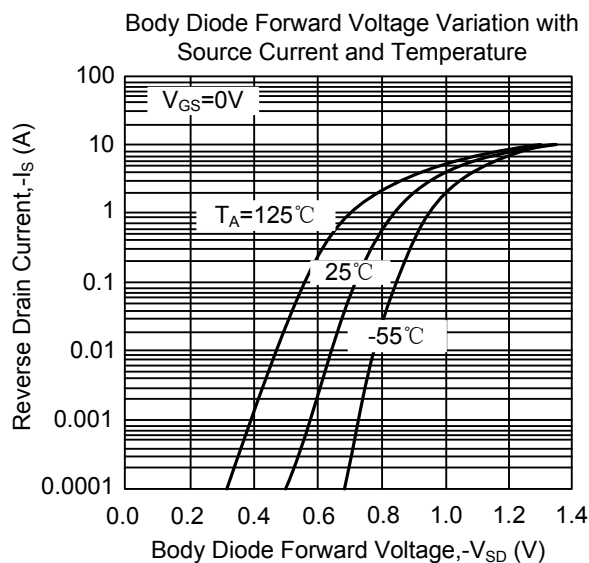
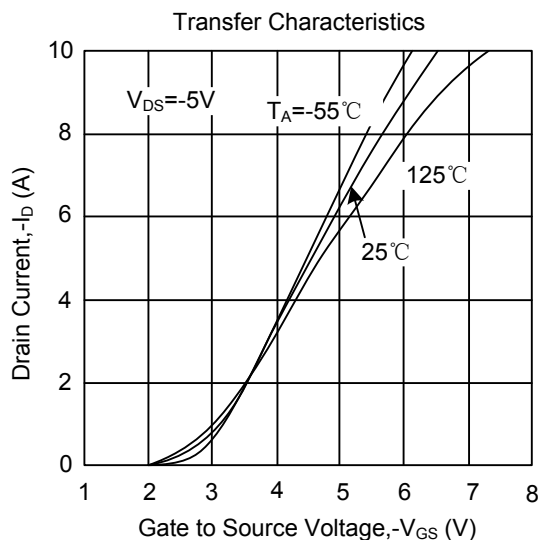
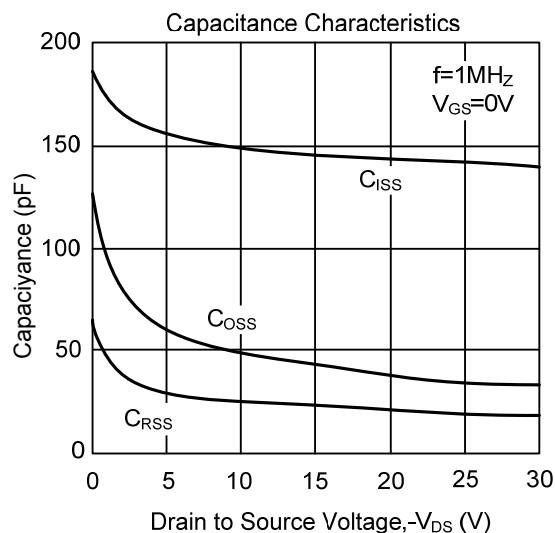
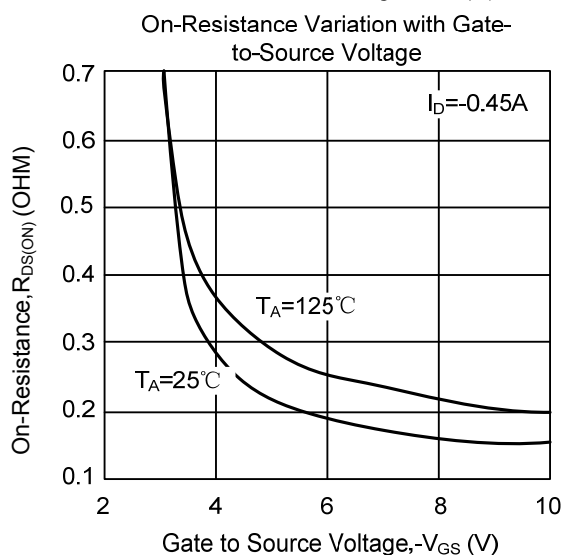
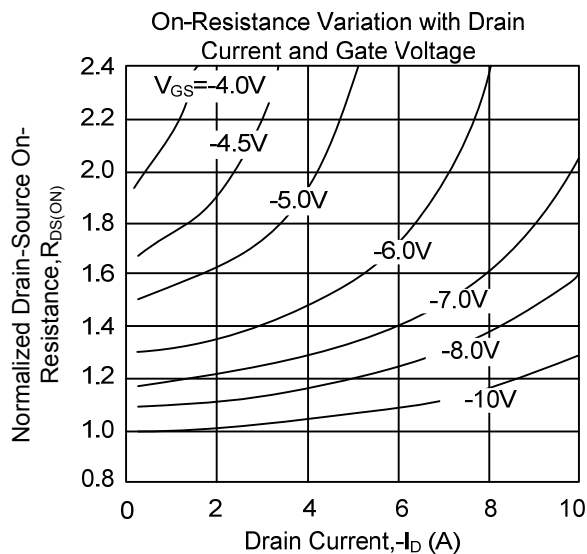
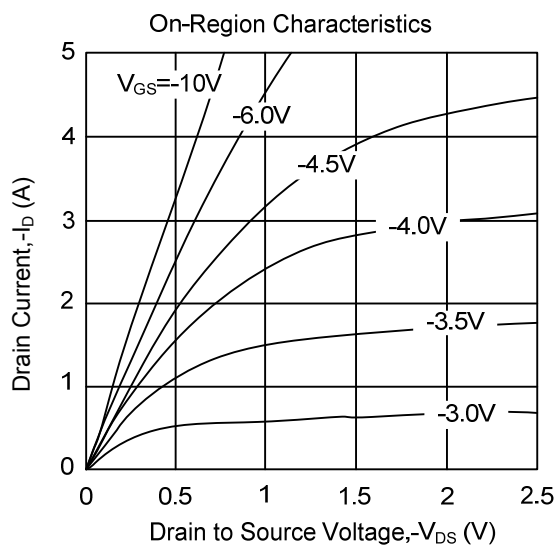
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =-250uA	-30			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±25V, V _{DS} =0V			±100	nA
Breakdown Voltage Temperature Coefficient	ΔBV _{DSS} /ΔT _J	Reference to 25°C, I _D =-250uA		-17		mV/°C
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =-250uA	-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	mΩ
		V _{GS} =-4.5V, I _D =-1.1A		250	300	mΩ
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{ISS}	V _{GS} =0V, V _{DS} =-15V, f=1MHz		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 =6Ω		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/μs		17		ns
Reverse Recovery Charge	Q _{RR}			7		nC

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

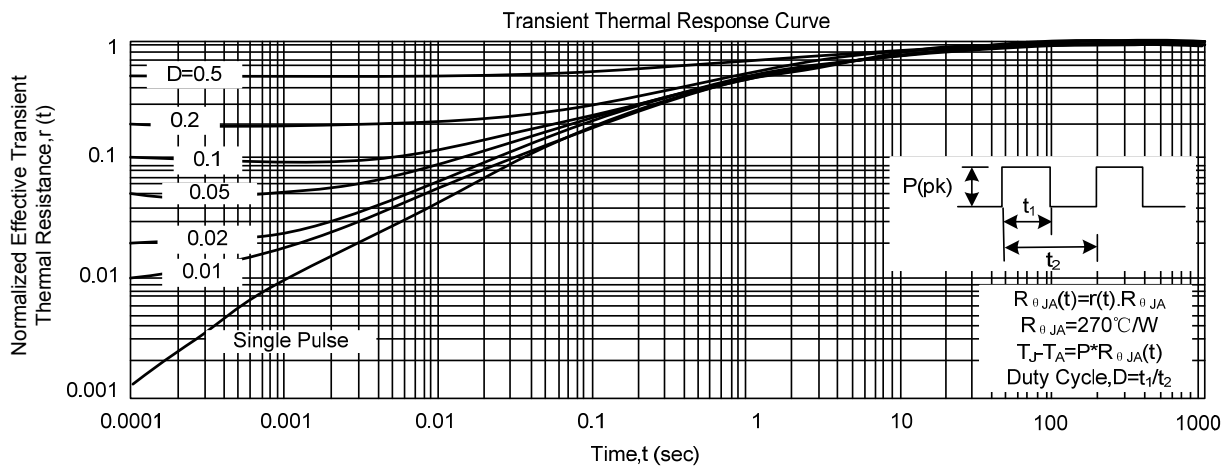
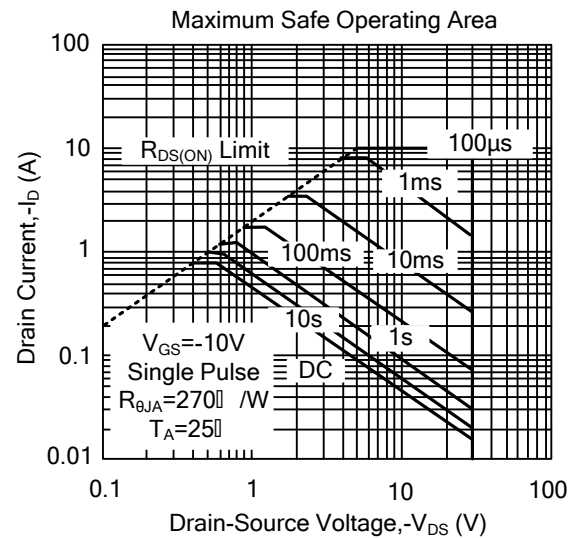
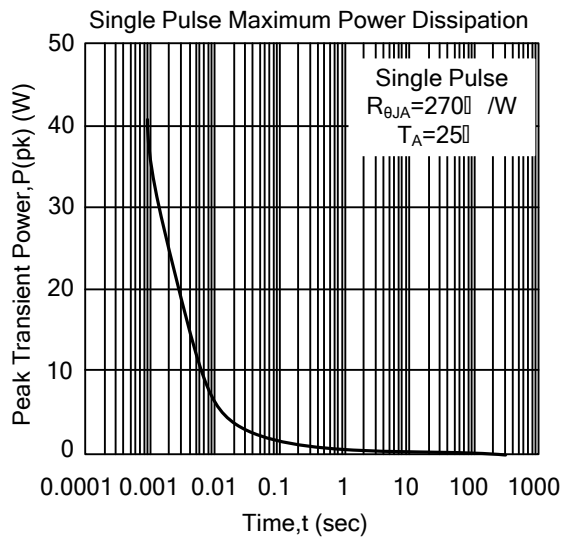
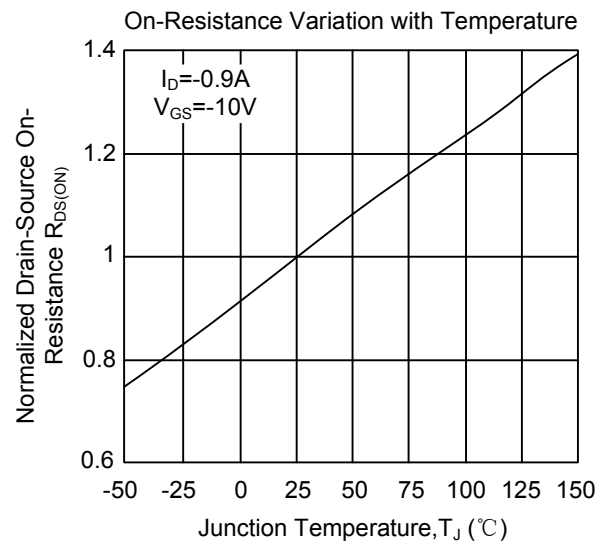
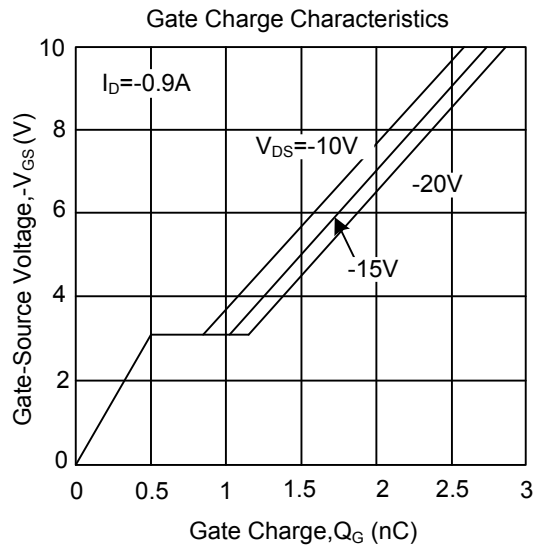
2. Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

3. Surface mounted on 0.001 in² pad of 2oz. copper; 270°C/W when mounted on min.

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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