



UT2340

Power MOSFET

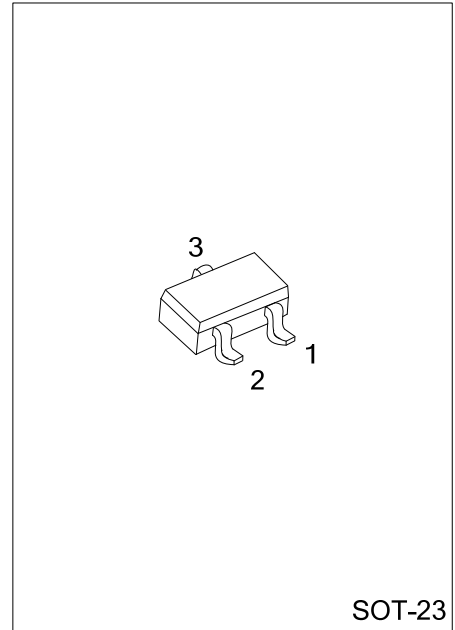
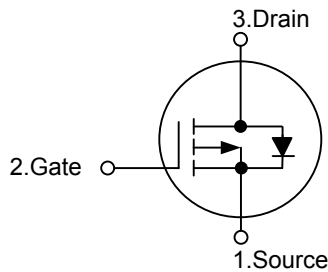
P-CHANNEL ENHANCEMENT MODE

DESCRIPTION

The UTC **UT2340** is P-Channel enhancement mode Power MOSFET, designed in serried ranks with fast switching speed, low on-resistance and favorable stabilization.

Used in commercial and industrial surface mount applications and suited for low voltage applications such as DC/DC converters.

SYMBOL

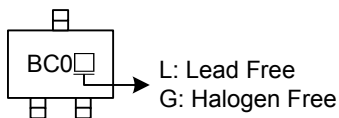


ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UT2340L-AE3-R	UT2340G-AE3-R	SOT-23	S	G	D	Tape Reel

<p>UT2340L-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 (Ta = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V _{DSS}	-20	V
Gate-Source Voltage	V _{GSS}	±8	V
Continuous Drain Current (Note 3)	I _D	-2	A
Pulsed Drain Current (Note 1, 2)	I _{DM}	-10	A
Total Power Dissipation	P _D	0.46	W
Junction Temperature	T _J	+150	°C
Strong Temperature	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.

■ THERMAL DATA

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction to Ambient (Note 3)	θ _{JA}		250		°C/W
Junction to Case	θ _{JC}		75		°C/W

■ ELECTRICAL CHARACTERISTICS (T_J =25°C, unless otherwise specified)

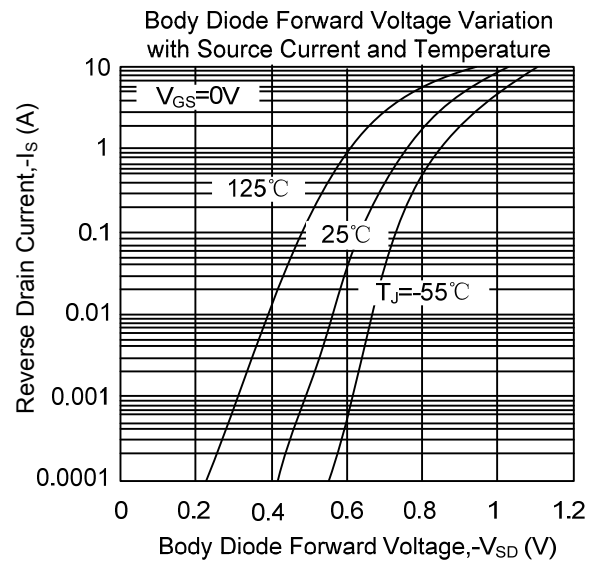
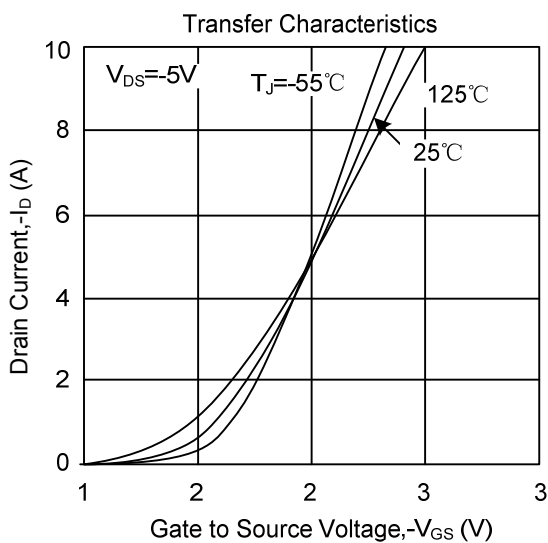
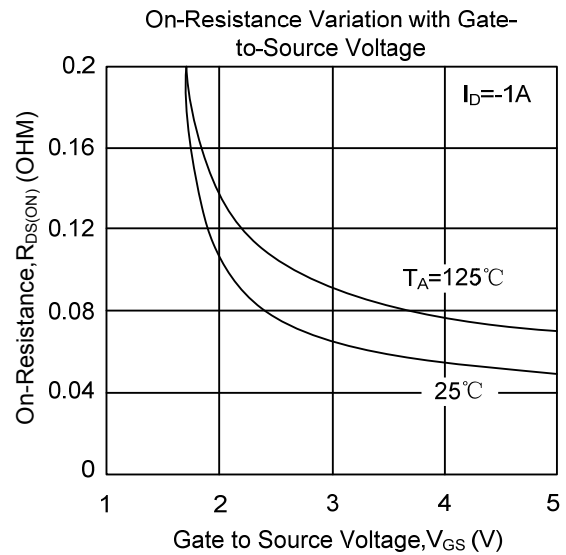
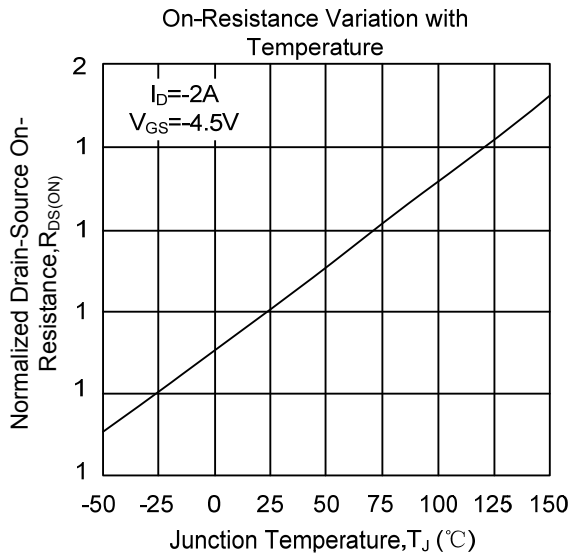
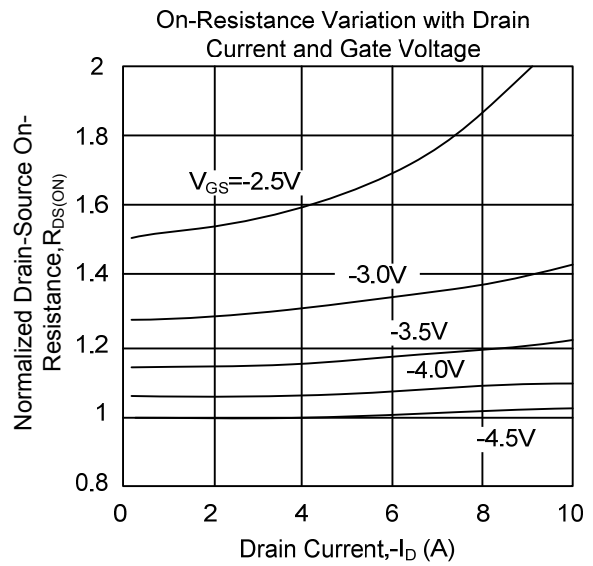
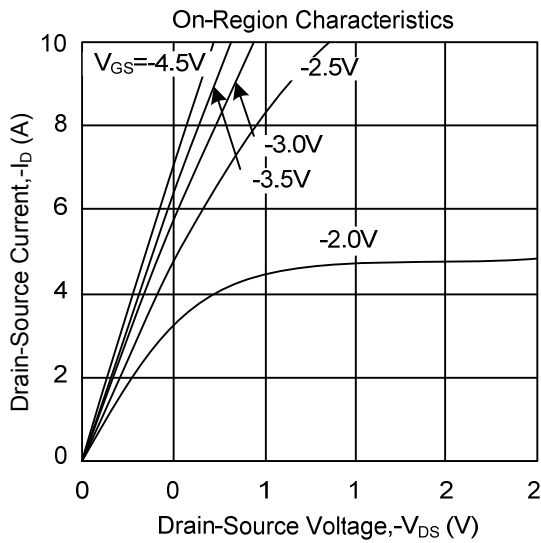
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0 V, I _D =-250 μA	-20			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =-16V, V _{GS} =0 V			-1	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±8 V, V _{DS} = 0 V			±100	nA
Breakdown Voltage Temperature Coefficient	ΔBV _{DSS} /ΔT _J	I _D =-250μA, Referenced to 25°C		-15		mV/°C
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =-250 μA	-0.4	-0.9	-1.5	V
Drain-Source On-State Resistance (Note 2)	R _{DS(ON)}	V _{GS} =-4.5V, I _D =-2A		52	70	mΩ
		V _{GS} =-2.5 V, I _D =-1.7A		78	110	mΩ
		V _{GS} =-1.8V, I _D =-1.2A			210	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{DS} =-10V, V _{GS} =0V, f=1.0MHz		600		pF
Output Capacitance	C _{OSS}			175		pF
Reverse Transfer Capacitance	C _{RSS}			80		pF
SWITCHING PARAMETERS						
Turn-ON Delay Time (Note 2)	t _{D(ON)}	V _{DD} =-5V, I _D =-0.5A, V _{GS} =-4.5V, R _{GEN} =6 Ω		6	12	ns
Turn-ON Rise Time	t _R			9	18	ns
Turn-OFF Delay Time	t _{D(OFF)}			31	50	ns
Turn-OFF Fall Time	t _F			26	42	ns
Total Gate Charge (Note 2)	Q _G	V _{DS} =-10V, V _{GS} =-4.5V, I _D =-2A		8	11	nC
Gate-Source Charge	Q _{GS}			1.3		nC
Gate-Drain Charge	Q _{GD}			2.2		nC
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Drain-Source Diode Forward Voltage(Note2)	V _{SD}	V _{GS} =0V, I _S = -0.42A (Note)		-0.7	-1.2	V
Maximum Continuous Drain-Source Diode Forward Current	I _S				-0.42	A

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

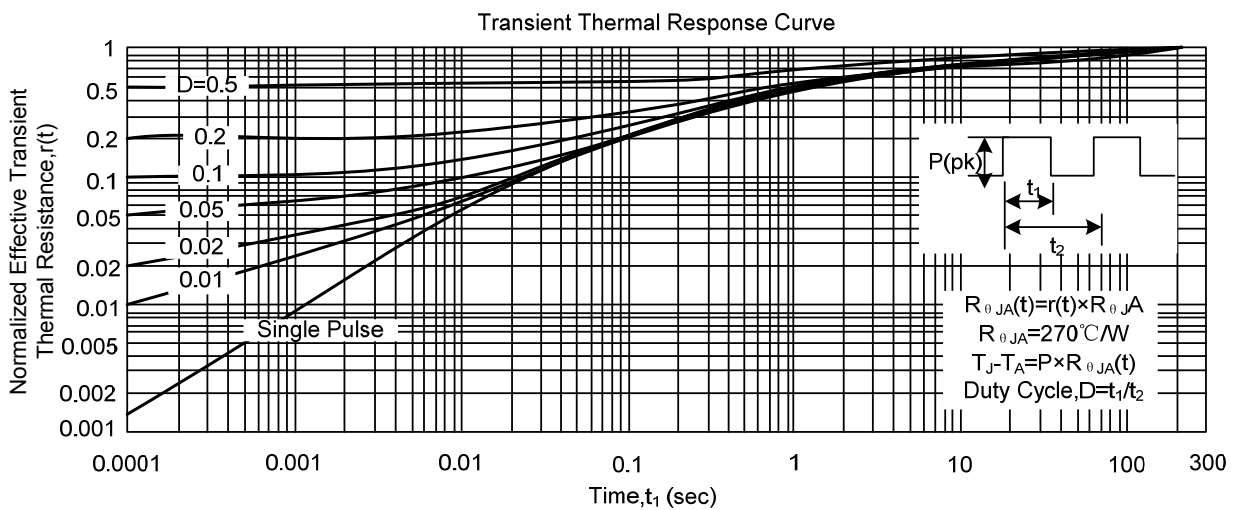
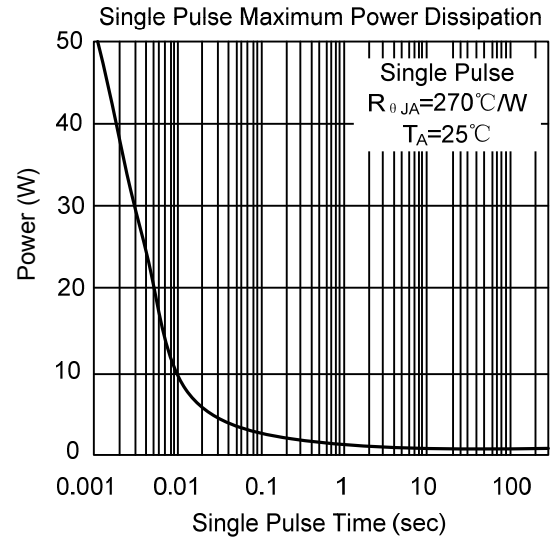
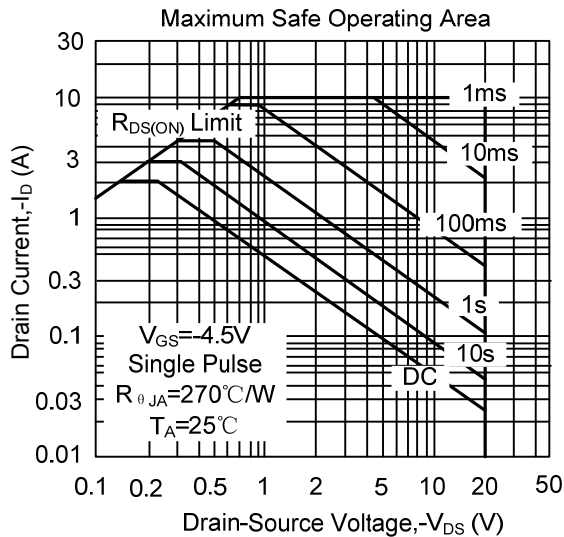
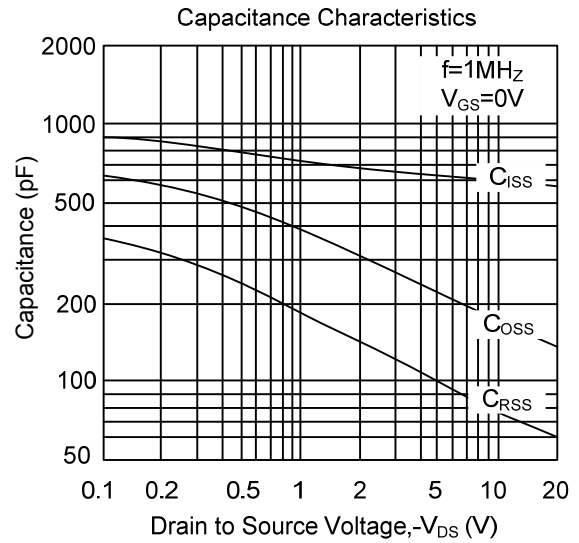
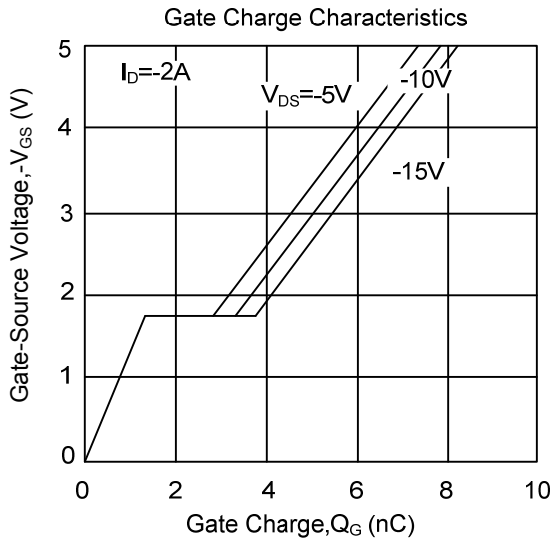
2. Pulse width ≤300μs, duty cycle ≤2%.

3. Surface mounted on 1 in² copper pad of FR4 board; 270°C/W when mounted on min.

TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS(Cont.)



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