

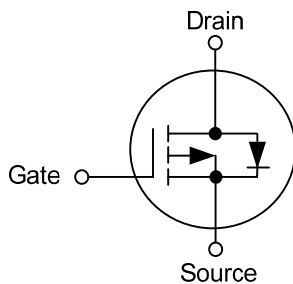
**UT3P06****Power MOSFET****3A, 60V (D-S) P-CHANNEL
POWER MOSFET****DESCRIPTION**

The UTC **UT3P06** is a P-channel enhancement power MOSFET using UTC's advanced technology to provide the customers with perfect $R_{DS(ON)}$ and low gate charge.

This UTC **UT3P06** can be operated with -4.5V low gate voltage.

FEATURES

- * $R_{DS(ON)} < 220m\Omega$ @ $V_{GS} = -10V$, $I_D = -3A$
- $R_{DS(ON)} < 310m\Omega$ @ $V_{GS} = -4.5V$, $I_D = -1.9A$
- * Low gate charge (Typically 7nC)

SYMBOL**ORDERING INFORMATION**

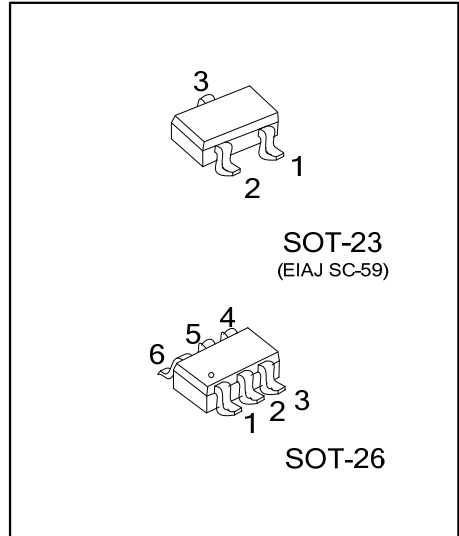
Ordering Number	Package	Pin Assignment						Packing
		1	2	3	4	5	6	
UT3P06G-AE3-R	SOT-23	S	G	D	-	-	-	Tape Reel
UT3P06G-AG6-R	SOT-26	D	D	G	S	D	D	Tape Reel

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

UT3P06G-AE3-R (1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel (2) AE3: SOT-23, AG6: SOT-26 (3) L: Lead Free, G: Halogen Free and Lead Free
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MARKING

SOT-23	SOT-26



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

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DS}	-60	V
Gate-Source Voltage		V_{GS}	± 20	V
Drain Current	Continuous	I_D	-3	A
	Pulsed	I_{DM}	-10	A
Avalanche Current ($L=0.1\text{mH}$)		I_{AR}	-7	A
Power Dissipation (Note 1, 2)	SOT-23	P_D	0.35	W
	SOT-26		1.1	
Junction Temperature		T_J	+150	$^{\circ}\text{C}$
Storage Temperature		T_{STG}	-55~+150	$^{\circ}\text{C}$

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient (Note 1,2)	SOT-23	θ_{JA}	350	$^{\circ}\text{C/W}$
	SOT-26		110	

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. Surface Mounted on FR4 Board.

3. $t \leq 5 \text{ sec}$

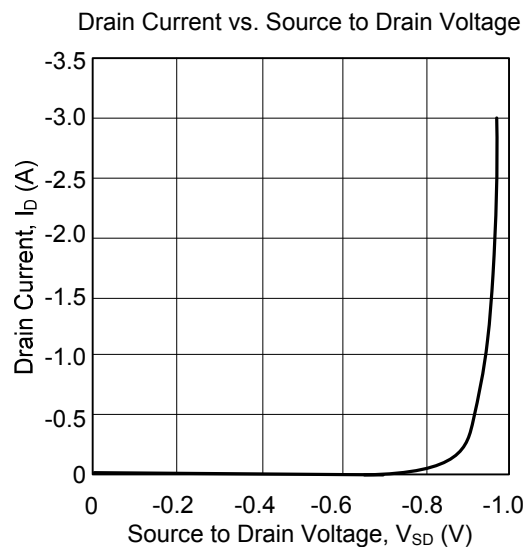
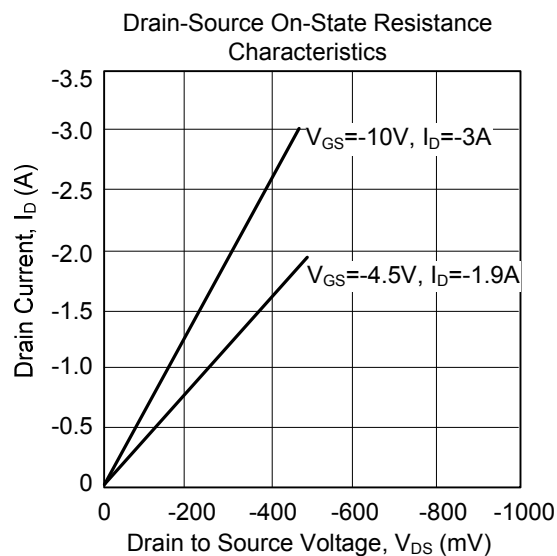
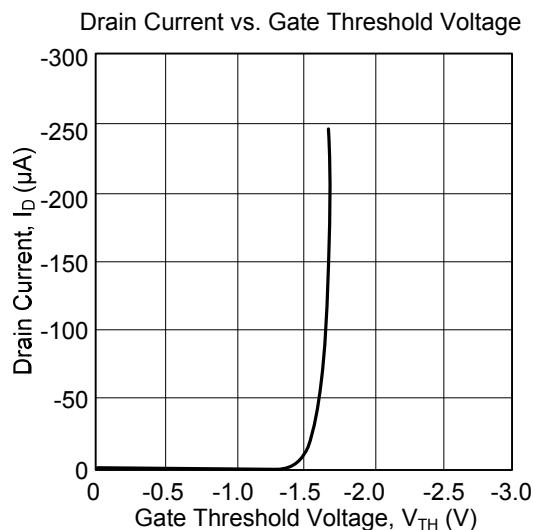
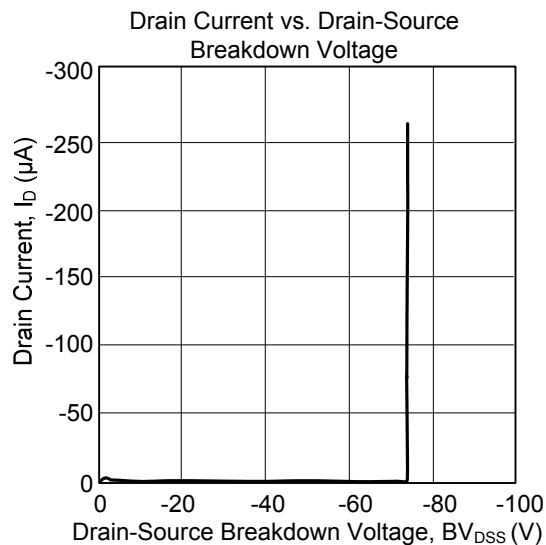
■ ELECTRICAL CHARACTERISTICS ($T_J=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV _{DSS}	I _D =-250μA, V _{DS} =0V	-60			V
Drain-Source Leakage Current		I _{DSS}	V _{DS} =-48V, V _{GS} =0V			-1	μA
			V _{DS} =-48V, V _{GS} =0V , T _J =150°C			-50	
Gate- Source Leakage Current	Forward	I _{GSS}	V _{GS} =+20V, V _{DS} =0V			+100	nA
	Reverse		V _{GS} =-20V, V _{DS} =0V			-100	nA
ON CHARACTERISTICS							
Gate Threshold Voltage		V _{GS(TH)}	V _{DS} =V _{GS} , I _D =-250μA	-1			V
Static Drain-Source On-State Resistance (Note 1)		R _{DS(ON)}	V _{GS} =-10V, I _D =-3A		190	220	mΩ
			V _{GS} =-4.5V, I _D =-1.9A		265	310	
On State Drain Current (Note 1)		I _{D(ON)}	V _{GS} =-10V, V _{DS} =-5V	-10			A
SWITCHING PARAMETERS (Note 2)							
Total Gate Charge		Q _G	V _{GS} =-10V, V _{DS} =-30V, I _D =-3A		7	14	nC
Gate to Source Charge		Q _{GS}			1.6		nC
Gate to Drain Charge		Q _{GD}			1.2		nC
Turn-ON Delay Time		t _{D(ON)}	V _{DD} =-30V, V _{GEN} =-10V, I _D =-1A, R _L =30 Ω , R _G =6Ω		8	16	ns
Rise Time		t _R			12	24	ns
Turn-OFF Delay Time		t _{D(OFF)}			23	45	ns
Fall-Time		t _F			12	25	ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS (Note 2)							
Maximum Body-Diode Continuous Current		I _S				-1.7	A
Maximum Body-Diode Pulsed Current		I _{SM}				-10	A
Drain-Source Diode Forward Voltage		V _{SD}	I _S =-3A, V _{GS} =0V (Note 1)		-0.8	-1.2	V

Notes: 1. Pulse Test: Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$.

2. Guaranteed by design, not subject to production testing.

TYPICAL CHARACTERISTICS



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