



UT06P03

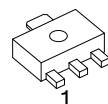
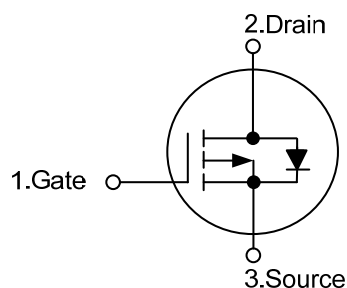
Power MOSFET

P-CHANNEL ENHANCEMENT MODE

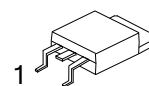
DESCRIPTION

The **UT06P03** is P-Channel Power MOSFET, designed with high density cell with fast switching speed, ultra low on-resistance, excellent thermal and electrical capabilities.

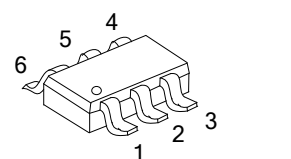
SYMBOL



SOT-89



TO-252



SOT-26

ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
-	UT06P03G-AB3-R	SOT-89	G	D	S	-	-	-	Tape Reel
-	UT06P03G-AG6-R	SOT-26	D	D	G	S	D	D	Tape Reel
UT06P03L-TN3-R	UT06P03G-TN3-R	TO-252	G	D	S	-	-	-	Tape Reel

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

UT06P03G-AB3-R	(1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel, T: Tube (2) AB3: SOT-89, AG6: SOT-26, TN3: TO-252 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING

SOT-89	SOT-26	TO-252
 1	 1 2 3 4 5 6	 1

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

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	-30	V
Gate-Source Voltage		V_{GSS}	± 20	V
Continuous Drain Current		I_D	-4	A
Pulsed Drain Current (Note 1, 2)		I_{DM}	-20	A
Total Power Dissipation ($T_A = 25^\circ\text{C}$)	SOT-89	P_D	0.78	W
	SOT-26		0.41	W
	TO-252		1	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	MAX	UNIT
Junction to Ambient	SOT-89	θ_{JA}	160	$^\circ\text{C/W}$
	SOT-26		300	$^\circ\text{C/W}$
	TO-252		110	$^\circ\text{C/W}$
Junction to Case	SOT-89	θ_{JC}	18	$^\circ\text{C/W}$
	SOT-26		110	$^\circ\text{C/W}$
	TO-252		7.93	$^\circ\text{C/W}$

■ **ELECTRICAL CHARACTERISTICS** ($T_C = 25^\circ\text{C}$, unless otherwise noted)

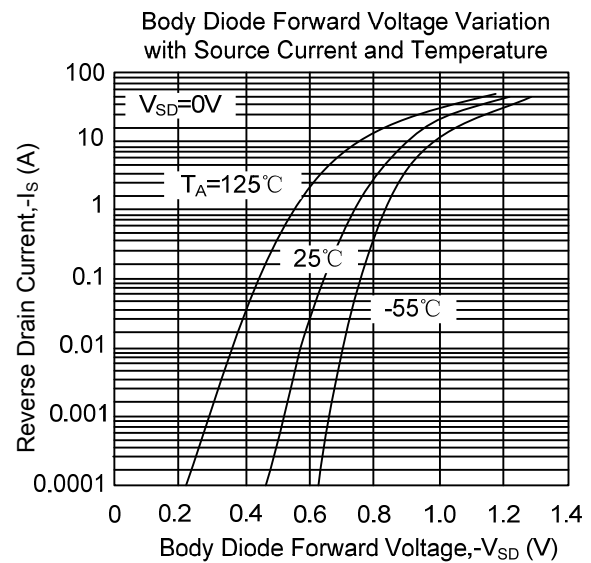
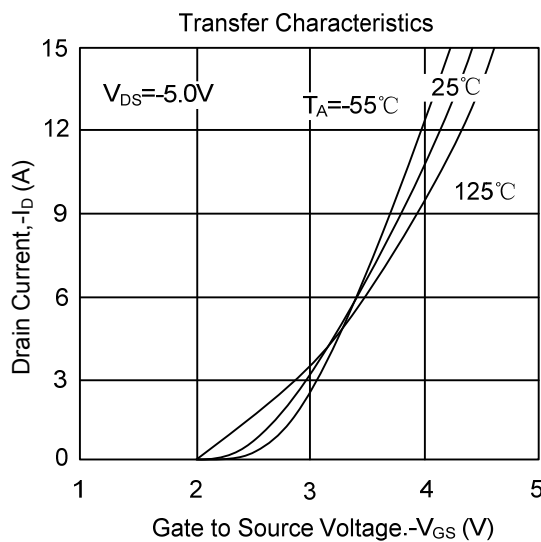
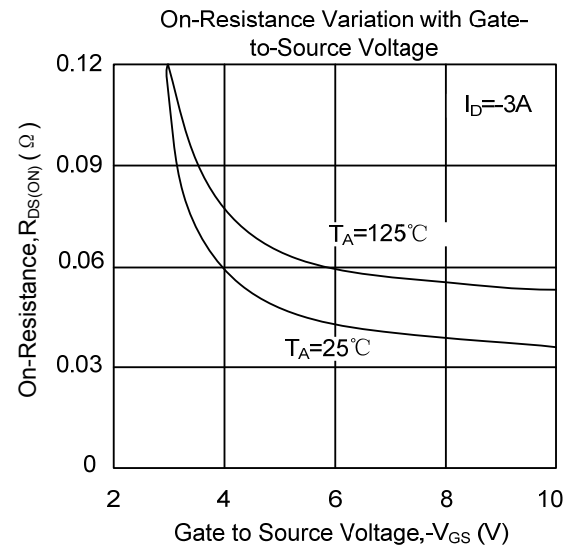
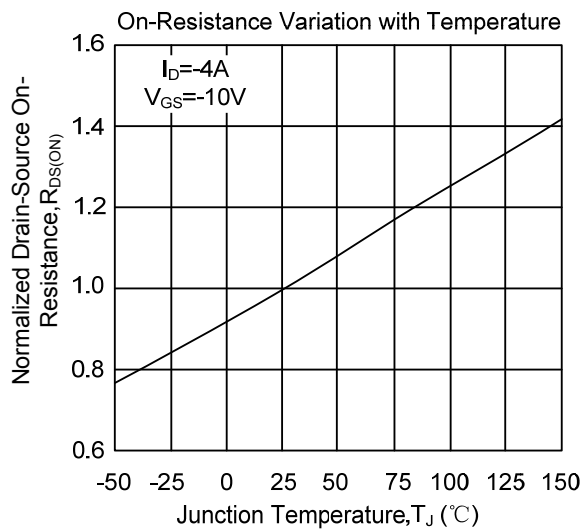
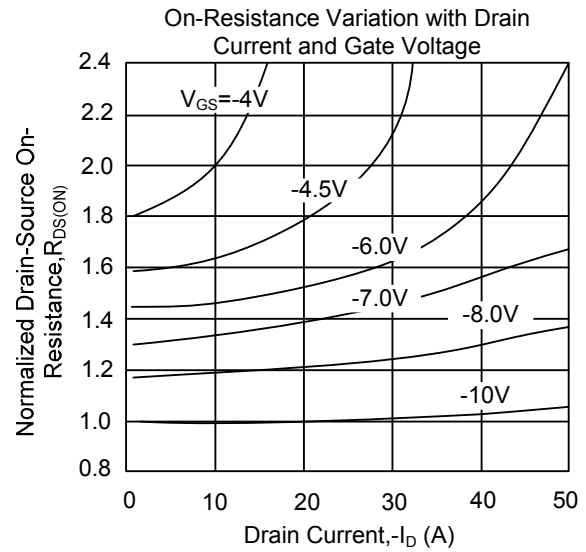
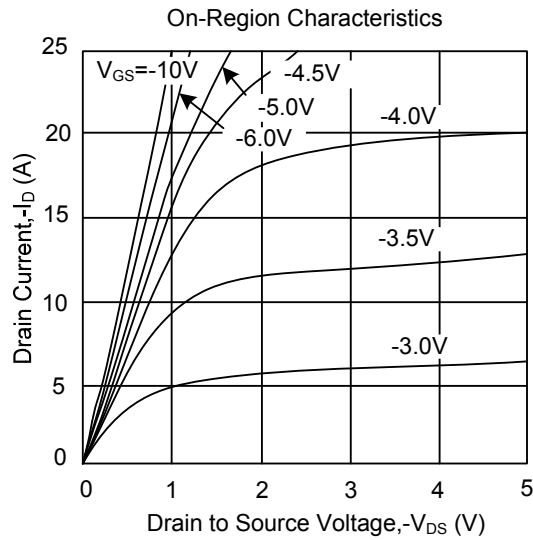
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0 V, I _D =-250μA	-30			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0 V			1	μA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0 V, V _{GS} = ±20V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =-250 μA	-0.9	-1.5	-3	V
Drain-Source On-State Resistance (Note 2)	R _{DS(ON)}	V _{GS} =-4.5V, I _D =-3A		60	75	mΩ
		V _{GS} =-10V, I _D =-4A		37	45	
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{DS} =-15V, V _{GS} =0V, f=1MHz		530		pF
Output Capacitance	C _{OSS}			135		
Reverse Transfer Capacitance	C _{RSS}			70		
SWITCHING PARAMETERS						
Turn-ON Delay Time (Note 2)	t _{D(ON)}	V _{GS} =-10V,V _{DS} =-15V,R _G =6Ω, I _D =-1A		5.7		ns
Turn-ON Rise Time	t _R			10		
Turn-OFF Delay Time	t _{D(OFF)}			18		
Turn-OFF Fall Time	t _F			5		
Total Gate Charge (Note 2)	Q _G	V _{DS} =0.5BV _{DSS} , V _{GS} =-10V, I _D =-4A		10	14	nC
Gate-Source Charge	Q _{GS}			2.2		
Gate-Drain Charge	Q _{GD}			2		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage	V _{SD}	I _F = -1A, V _{GS} = 0V			-1.2	V
Maximum Body-Diode Continuous Current	I _S				-2.1	A
Maximum Pulsed Drain-Source Diode Forward Current (Note 1)	I _{SM}				-4	
Reverse Recovery Time	t _{RR}	I _F =-4 A, dI _F /dt=100A/μs		15.5		ns
Recovery Charge	Q _{RR}			7.9		nC

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

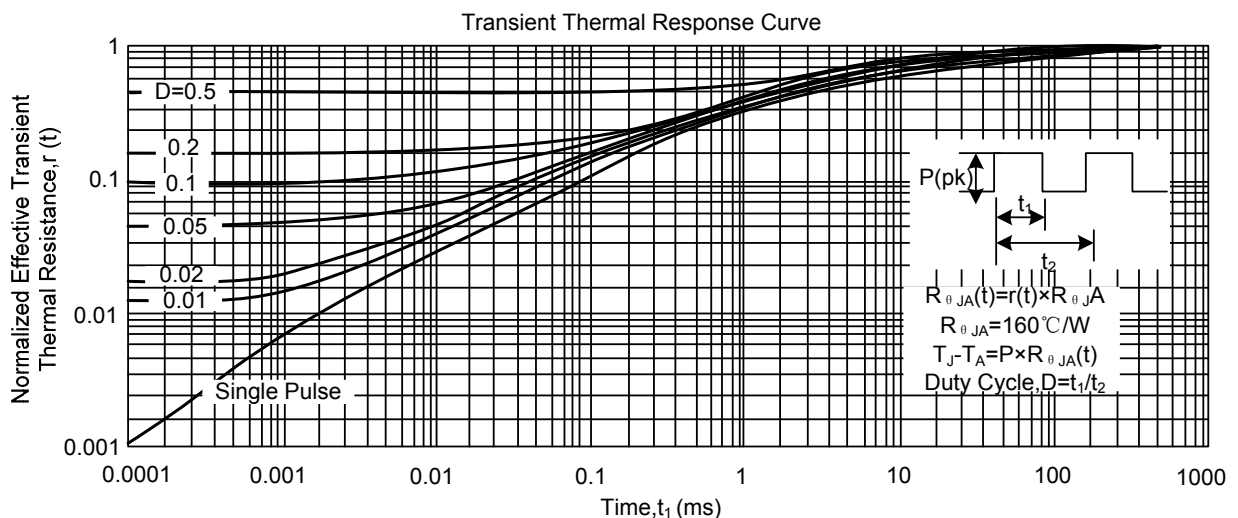
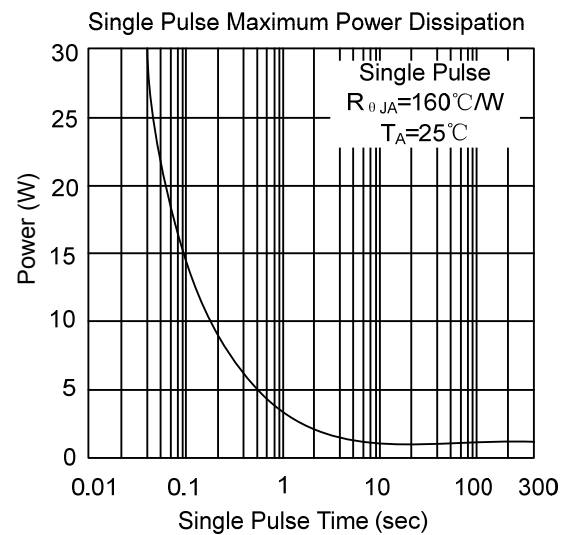
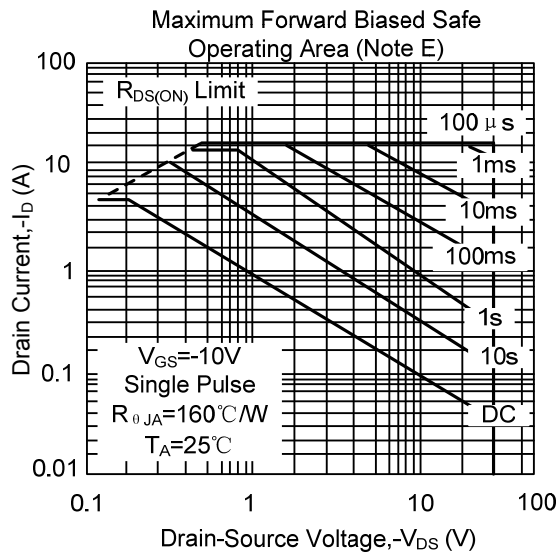
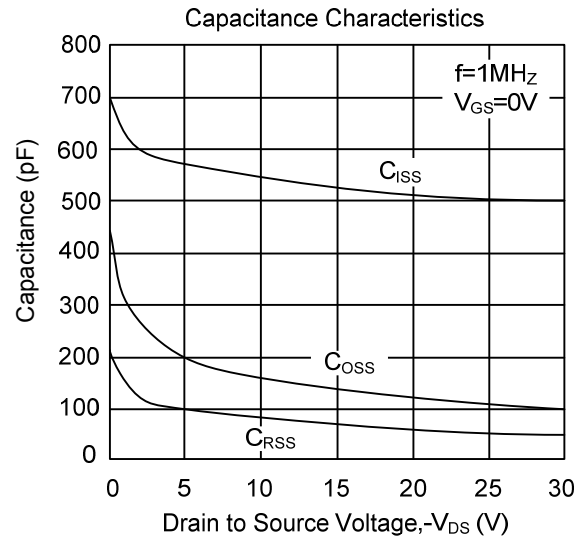
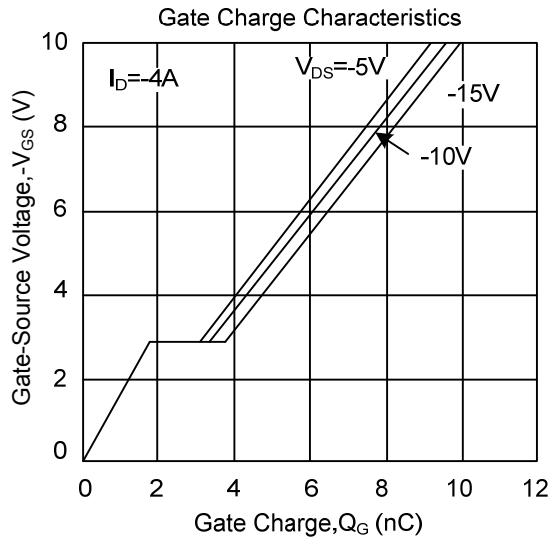
2. Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

3. Surface mounted on 1 in² copper pad of FR4 board.

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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