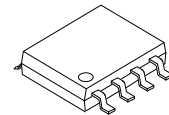
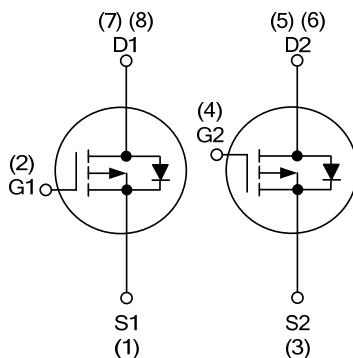


**UT20PP03****Power MOSFET****P-CHANNEL ENHANCEMENT
MODE POWER MOSFET****DESCRIPTION**

The **UT20PP03** uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with low gate voltages. This device is suitable for use as a load switch or in PWM applications.

FEATURES

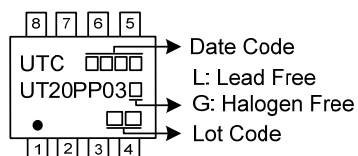
- * $R_{DS(ON)} \leq 20 \text{ m}\Omega$ @ $V_{GS} = -10\text{V}$, $I_D = -10\text{A}$
- * $R_{DS(ON)} \leq 27.5 \text{ m}\Omega$ @ $V_{GS} = -4.5\text{V}$, $I_D = -10\text{A}$
- * Low capacitance
- * Low gate charge
- * Fast switching capability
- * Avalanche energy specified

SYMBOL**SOP-8****ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
UT20PP03L-S08-R	UT20PP03G-S08-R	SOP-8	S1	G1	S2	G2	D2	D2	D1	D1	Tape Reel

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

UT20PP03G-S08-R 		(1) R: Tape Reel (2) S08: SOP-8 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING

■ ABSOLUTE MAXIMUM RATINGS (T_C=25°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	-20	A
Pulsed Drain Current (Note 2)	I _{DM}	-40	A
Avalanche Energy	Single Pulsed (Note 3)	E _{AS}	50.6
Power Dissipation			
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Note: 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. Repetitive Rating : Pulse width limited by maximum junction temperature.

3. L = 0.1mH, I_{AS} = -31.8A, V_{DD} = -30V, R_G = 25Ω, Starting T_J = 25°C

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	90	°C/W
Junction to Case	θ _{JC}	56	°C/W

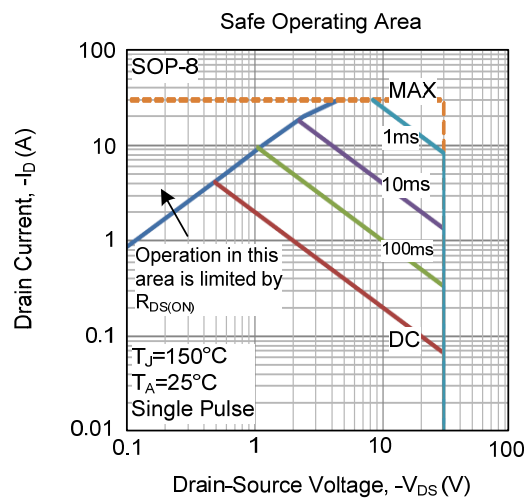
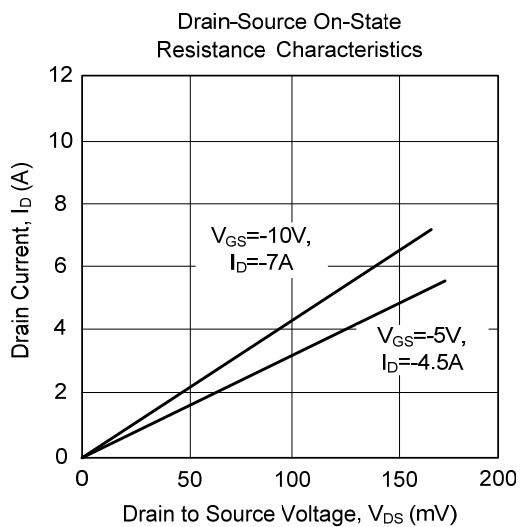
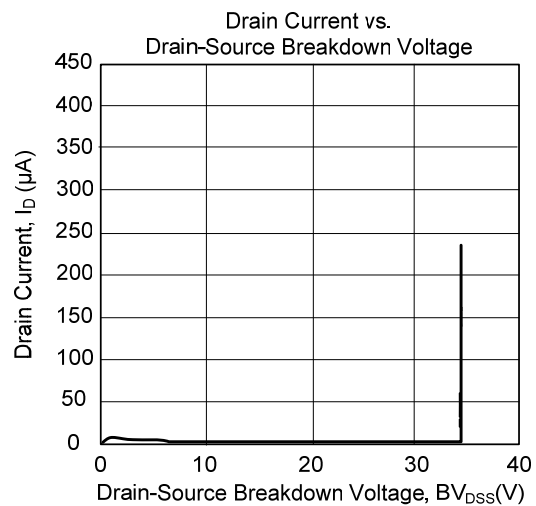
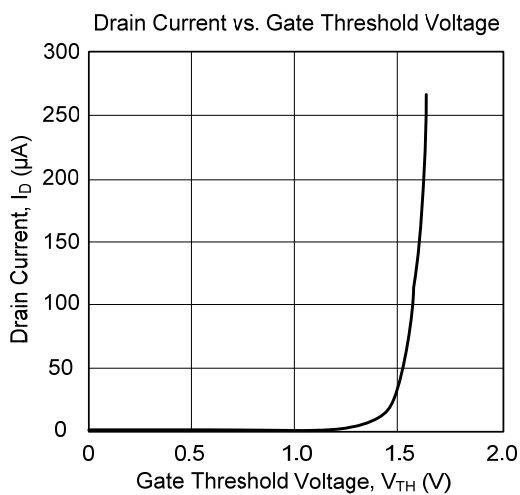
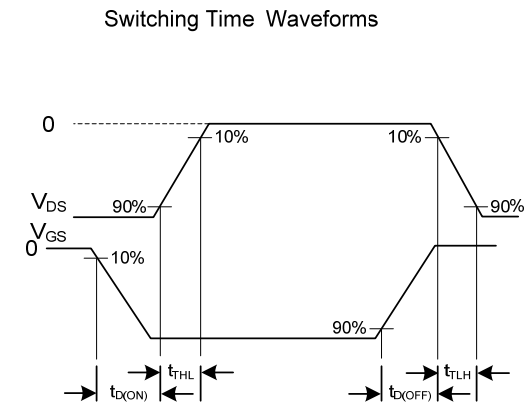
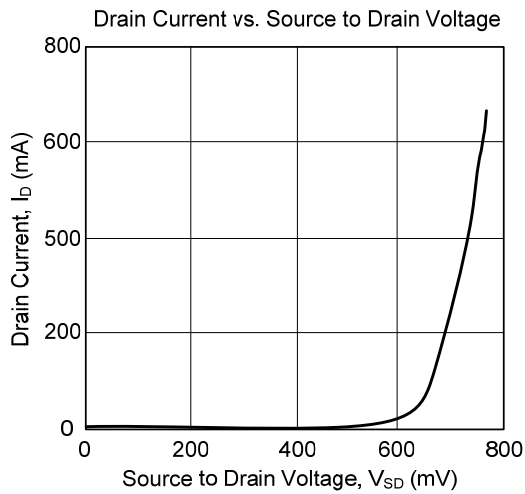
Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

■ 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} =0V, I _D =-250μA	-30			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _{DS} =-250μA	-1.0		-3.0	V
Static Drain-Source On-Resistance (Note)	R _{DS(ON)}	V _{GS} =-10V, I _D =-10A			20	mΩ
		V _{GS} =-4.5V, I _D =-10A			27.5	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{DS} =-25V, V _{GS} =0V, f=1.0MHz		1470		pF
Output Capacitance	C _{OSS}			265		pF
Reverse Transfer Capacitance	C _{RSS}			238		pF
SWITCHING PARAMETERS						
Total Gate Charge (Note)	Q _G	V _{DS} =-24V, V _{GS} =-4.5V, I _D =-20A		39		nC
Gate Source Charge	Q _{GS}			6		nC
Gate Drain Charge	Q _{GD}			10		nC
Turn-ON Delay Time (Note)	t _{D(ON)}	V _{DS} =-30V, I _D =-20A, V _{GS} =-10V R _G =3.3Ω, R _D =15Ω		7		ns
Turn-ON Rise Time	t _R			18		ns
Turn-OFF Delay Time	t _{D(OFF)}			46		ns
Turn-OFF Fall-Time	t _F			30.4		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Diode Forward Voltage	V _{SD}	I _S =-20A, V _{GS} =0V			-1.2	V
Body Diode Reverse Recovery Time	t _{rr}	I _S =-20A, V _{GS} =0V, dI/dt=100A/μs		172		ns
Body Diode Reverse Recovery Charge	Q _{rr}			794		nC

Note: Pulse width ≤ 300us , duty cycle ≤ 2%.

TYPICAL CHARACTERISTICS



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