



UT3403

Power MOSFET

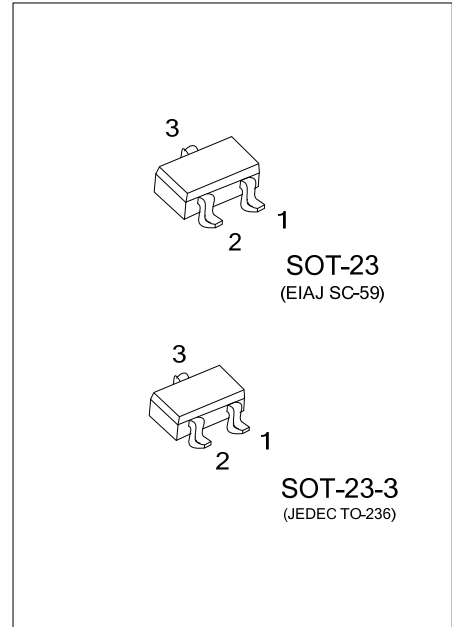
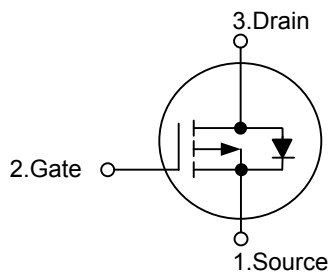
-2.6 Amps, 30 Volts P-CHANNEL POWER MOSFET

■ DESCRIPTION

The UTC **UT3403** is P-channel enhancement mode Power MOSFET, designed with high density cell, with fast switching speed, low on-resistance, excellent thermal and electrical capabilities and operation with low gate voltages.

This device is suitable for use as a load switch or in PWM applications.

■ SYMBOL



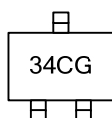
■ ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
UT3403G-AE2-R	SOT-23-3	S	G	D	Tape Reel
UT3403G-AE3-R	SOT-23	S	G	D	Tape Reel

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

UT3403G-AE3-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AE2: SOT-23-3, AE3: SOT-23
	(3)Green Package	(3) G: Halogen Free and Lead Free

■ MARKING



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

PARAMETER	SYMBOL	RATING	UNITS
Drain-Source Voltage	V_{DSS}	-30	V
Gate-Source Voltage	V_{GSS}	± 12	V
Continuous Drain Current (Note 3)	I_D	-2.6	A
Pulsed Drain Current (Note 1)	I_{DM}	-20	A
Power Dissipation(Note 3)	P_D	1.4	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

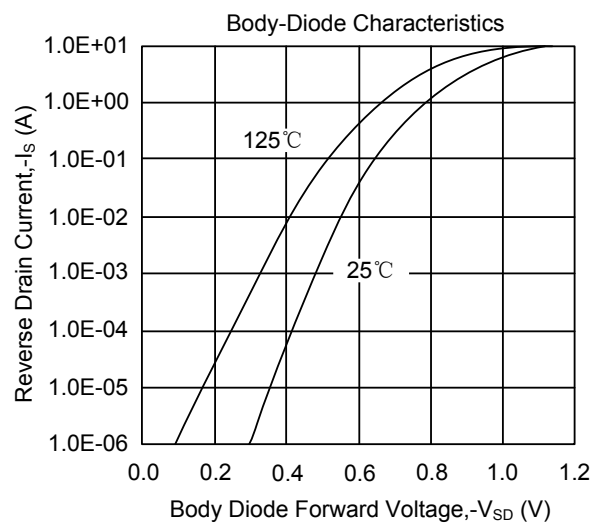
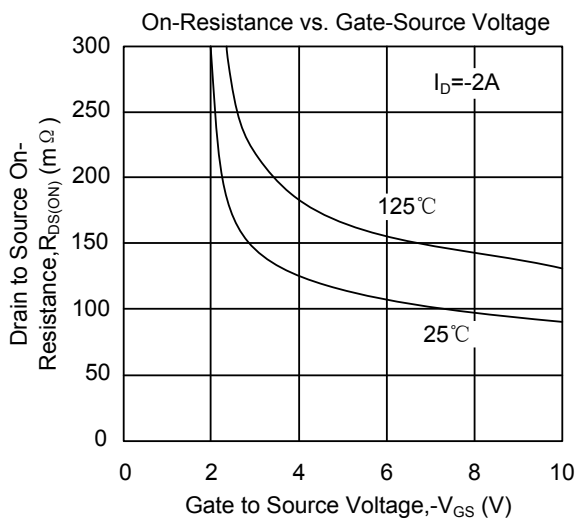
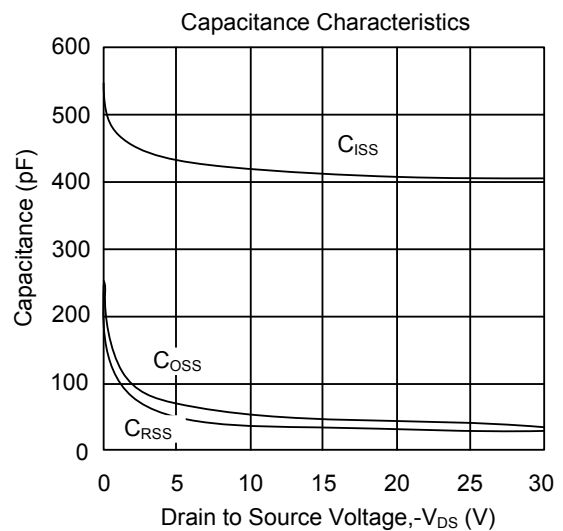
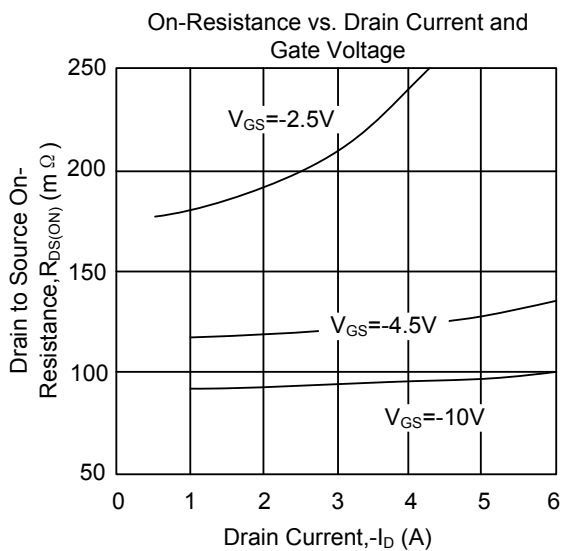
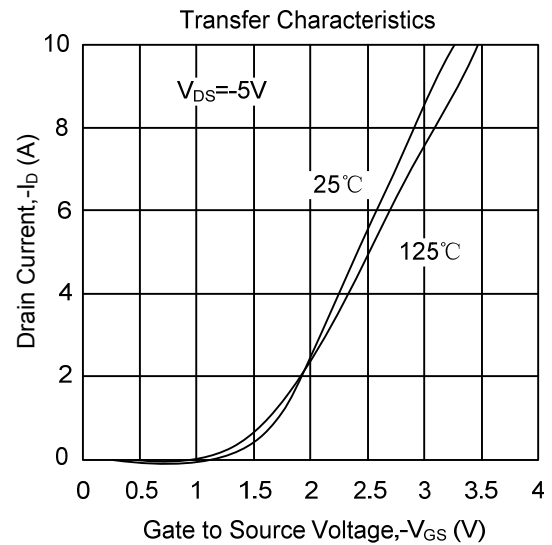
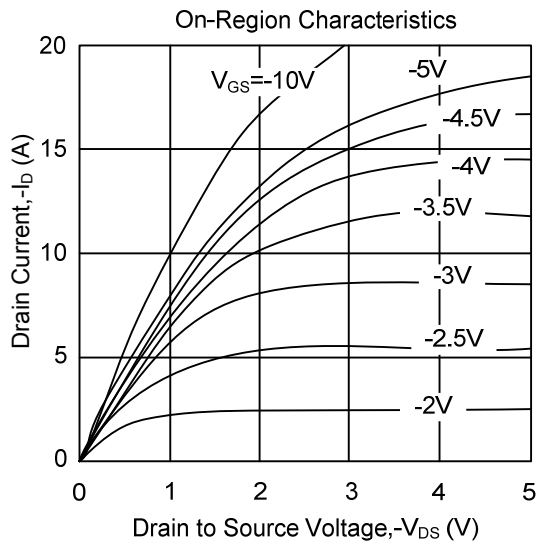
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction to Ambient (Note 3)	θ_{JA}		100	125	$^\circ\text{C/W}$

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

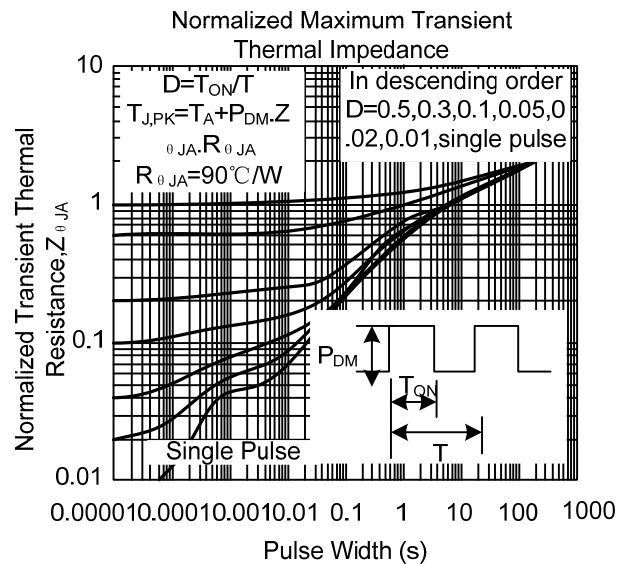
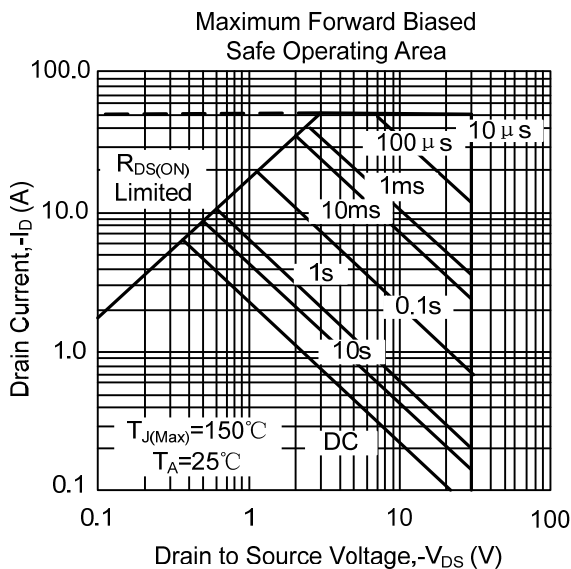
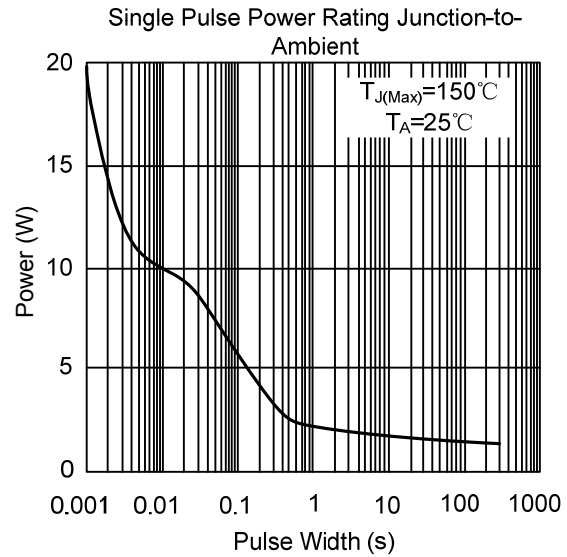
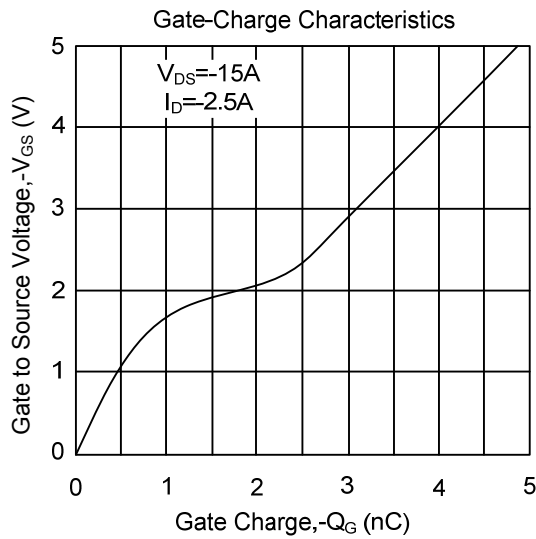
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =-250μA, V _{GS} =0V	-30			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-1	μA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =-250μA	-0.6	-1	-1.4	V
Drain-Source On-State Resistance (Note 2)	R _{DS(ON)}	V _{GS} =-10V, I _D =-2.6A		102	130	mΩ
		V _{GS} =-4.5V, I _D =-2A		128	180	mΩ
		V _{GS} =-2.5V, I _D =-1A		187	260	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{GS} =0V, V _{DS} =-15V, f=1MHz		409	500	pF
Output Capacitance	C _{OSS}			55		pF
Reverse Transfer Capacitance	C _{RSS}			42		pF
SWITCHING PARAMETERS						
Turn-ON Delay Time (Note 2)	t _{D(ON)}	V _{GS} =-10V, V _{DS} =-15V R _L =6Ω, R _G =3Ω		5.3	8	ns
Turn-ON Rise Time	t _R			4.4	9	ns
Turn-OFF Delay Time	t _{D(OFF)}			31.5	45	ns
Turn-OFF Fall Time	t _F	V _{GS} =-4.5V, V _{DS} =-15V, I _D =-2.5A		8	16	ns
Total Gate Charge (Note 2)	Q _G			4.4	5.3	nC
Gate-Source Charge	Q _{GS}			0.8		nC
Gate-Drain Charge	Q _{GD}			1.32		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage(Note2)	V _{SD}	V _{GS} =0V, I _S =-1A		-0.85	-1	V
Maximum Continuous Drain-Source Diode Forward Current	I _S				-2	A
Reverse Recovery Time	t _{RR}	I _F =-2.5A, dI/dt=100A/μs		15.8	19	ns
Reverse Recovery Charge	Q _{RR}			8	12	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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