

■ PRODUCT CHARACTERISTICS

VDSS	-30V
$R_{DS(on)max}(V_{GS} @=-4.5 V)$	75mΩ
$R_{DS(on)max}(V_{GS} @=-2.5 V)$	120mΩ
ID	-4.2

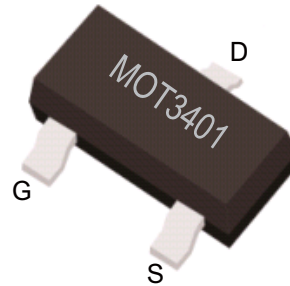
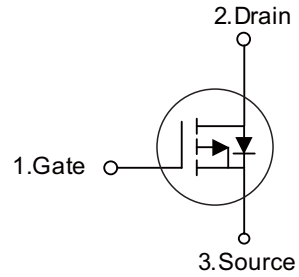
■ APPLICATIONS

Load/Power Switching
Interfacing Switching

■ FEATURES

Advanced trench process technology
High Density Cell Design For Ultra Low On-Resistance

Symbol



■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT3401	SOT-23	3000pieces/Real

Maximum Ratings and Thermal Characteristics (TA = 25oC unless otherwise noted)

Parameter	Symbol	Limit	Unit	
Drain-Source Voltage	V_{DS}	-30	V	
Gate-Source Voltage	V_{GS}	±12		
Continuous Drain Current	I_D	-4.2	A	
Pulsed Drain Current	I_{DM}	-30		
Maximum Power Dissipation	P_D	TA = 25°C	1.4	W
		TA = 75°C	1	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	°C	
Junction-to-Ambient Thermal Resistance (PCB mounted)	$R_{θJA}$	125	°C/W	

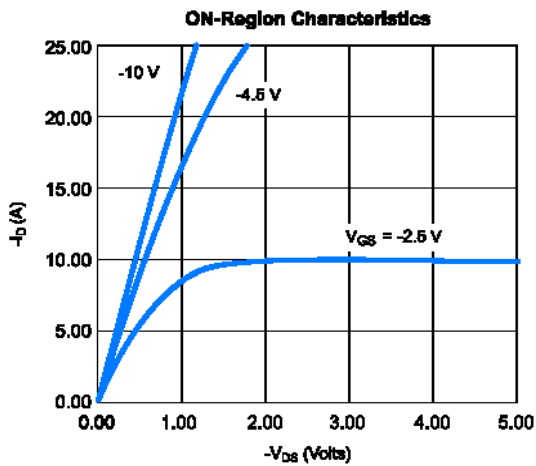
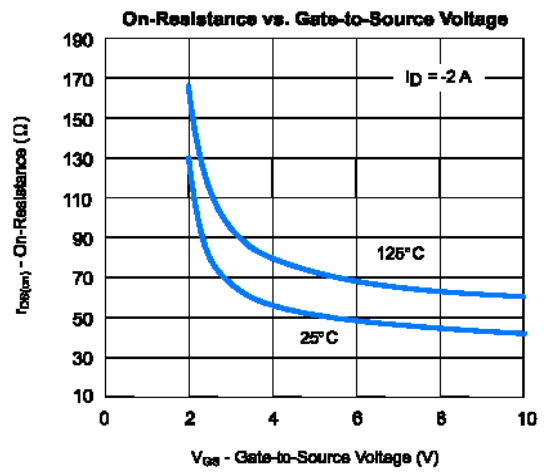
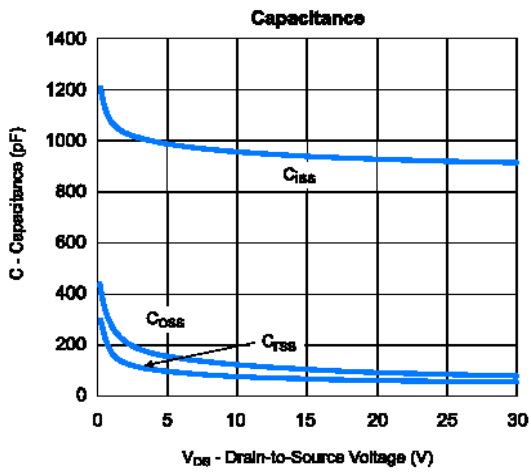
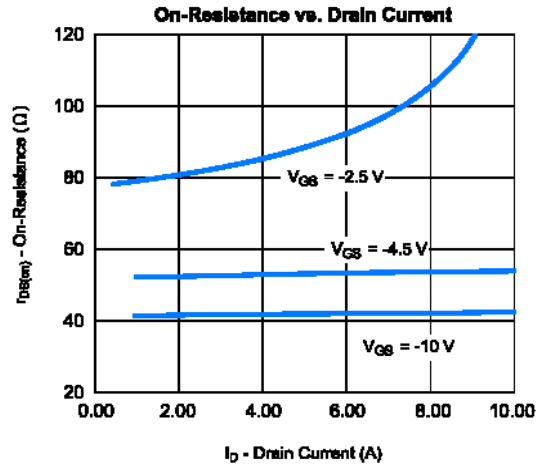
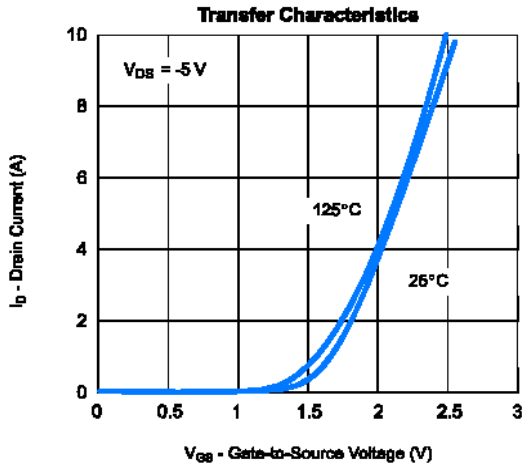


■ ELECTRICAL CHARACTERISTICS(T =25°C, unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.2A$		42.0	64.0	mΩ
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -4A$		64.0	75.0	
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS} = -2.5V, I_D = -1A$		80.0	120.0	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.7	-1	-1.3	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
Gate Body Leakage	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA
Forward Transconductance	g_{fs}	$V_{DS} = -5V, I_D = -5A$	7	11	—	S
Dynamic						
Total Gate Charge	Q_g	$V_{DS} = 20V, I_D = 5.7A$ $V_{GS} = 10V$		9.4		nC
Gate-Source Charge	Q_{gs}			2		
Gate-Drain Charge	Q_{gd}			3		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 20V, R_L = 20\Omega$ $I_D = 1A, V_{GEN} = 10V$ $R_G = 6\Omega$		6.3		ns
Turn-On Rise Time	t_r			3.2		
Turn-Off Delay Time	$t_{d(off)}$			38.2		
Turn-Off Fall Time	t_f			12		
Input Capacitance	C_{iss}	$V_{DS} = 8V, V_{GS} = 0V$ $f = 1.0 MHz$		954		pF
Output Capacitance	C_{oss}			115		
Reverse Transfer Capacitance	C_{rss}			77		
Source-Drain Diode						
Max. Diode Forward Current	I_S				-2.2	A
Diode Forward Voltage	V_{SD}	$I_S = 1.8A, V_{GS} = 0V$			-1.0	V

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

Typical Characteristics (T_J = 25°C Noted)



■ SOT-23 PACKAGE OUTLINE DIMENSIONS

