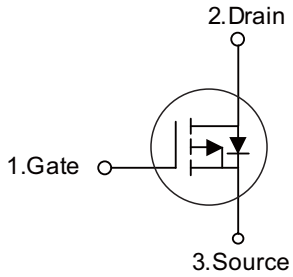
■ PRODUCT CHARACTERISTICS

VDSS	-30V
R_{DS} (on)Typ(V_{GS}@=-4.5 V)	44mΩ
R_{DS} (on)Typ(V_{GS}@=-2.5 V)	55mΩ
ID	-4.2

Symbol



■ APPLICATIONS

Load/Power Switching
Interfacing Switching

■ FEATURES

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

■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT3401A3	SOT-23A-3L	3000pieces/Real

■ ABSOLUTE MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

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

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

Parameter	Symbol	Test Condition	Min.	Typ.	Miax.	Unit
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0V, I_D = -250uA	-30	-	-	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS} = -10V, I_D = -4.2A	-	40	60	mΩ
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS} = -4.5V, I_D = -4A	-	44	65	
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS} = -2.5V, I_D =-1A	-	55	75	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D = -250uA	-0.7	-1	-1.3	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -24V, V_{GS} = 0V	-	-	-1	uA
Gate Body Leakage	I_{GSS}	V_{GS} = ± 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, RL=20Ω I_D = 1A, V_{GEN} = 10V R_G = 6Ω	-	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 = 2.9A, V_{GS} = 0V	-	-	-1.0	V

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

■ TYPICAL CHARACTERISTICS

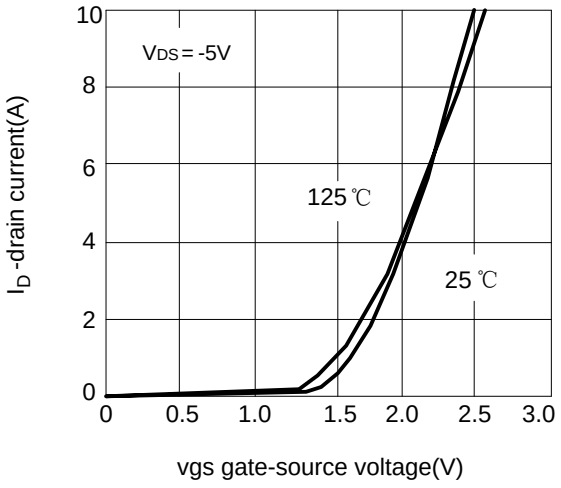


Fig.1 transfer characteristics

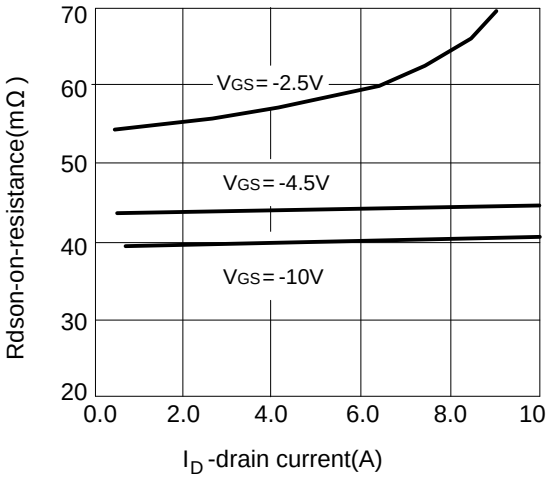


Fig.2 on resistance vs gate to source voltage

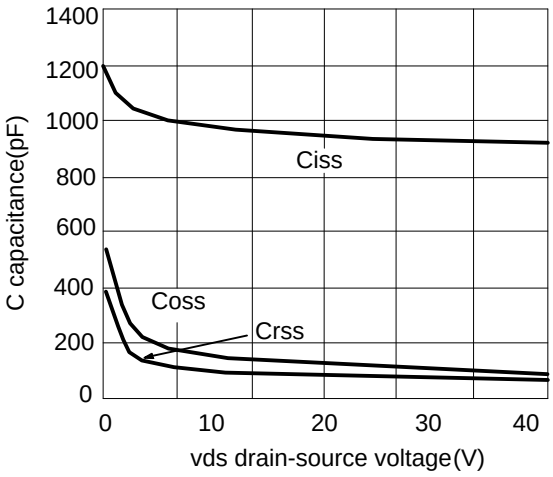


Fig.3 capacitance vs vds

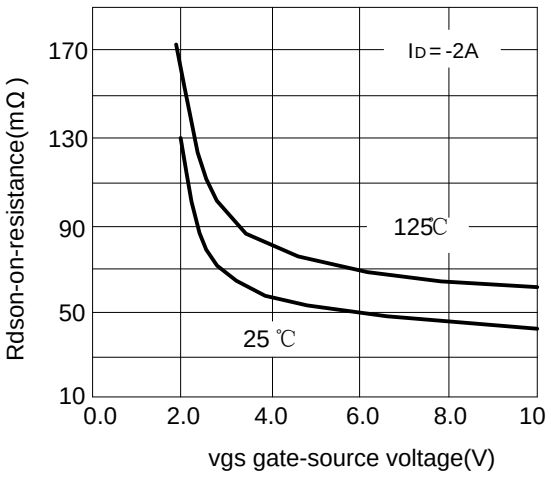


Fig.4 on resistance vs gate to source voltage

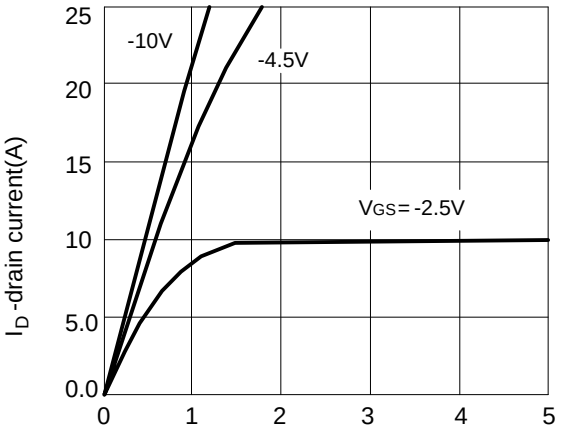
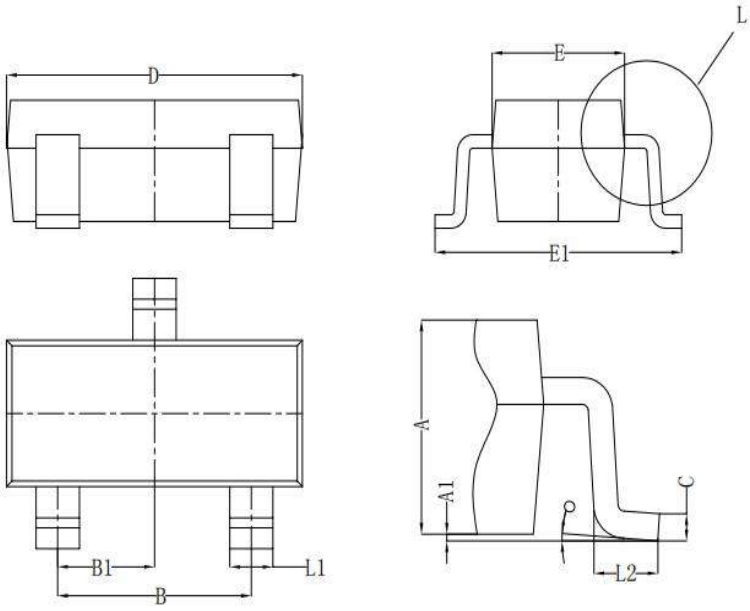


Fig.5 output characteristics

■SOT-23A-3L PACKAGE OUTLINE DIMENSIONS



Symbol	Dim in mm		
	Min	Nor	Max
A	1.050	1.100	1.150
A1	0.000	0.050	0.100
L1	0.300	0.400	0.500
C	0.100	0.150	0.200
D	2.820	2.920	3.020
E	1.500	1.600	1.700
E1	2.650	2.800	2.950
B	1.800	1.900	2.000
B1	0.950 TYP		
L2	0.300	0.450	0.600
o	0°	4°	8°