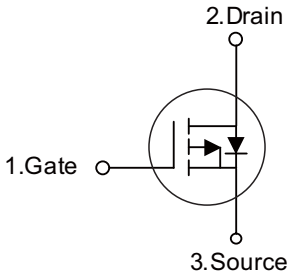
■ PRODUCT CHARACTERISTICS

VDSS	-30V
R_{DS}(on)Typ(@V_{GS}=-10V)	17mΩ
R_{DS}(on)typ(@V_{GS}=-4.5 V)	22mΩ
ID	-7A

Symbol

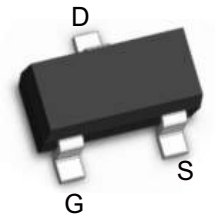


■ APPLICATIONS

- Load switch for portable
- DC/DC converter

■ FEATURES

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



■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT3419A3	SOT-23A-3L	3000pieces/Reel

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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-7	A
Pulsed Drain Current	I_{DM}	-28	A
Maximum Power Dissipation	P_D	1.6	W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	°C

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Off characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D = -250μA, V_{GS} = 0V	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -30V, V_{GS} = 0V	-	-	1.0	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20V	-	-	±100	nA
On characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250μA	-1.0	-1.7	-2.5	V
Static Drain-Source ON-Resistance	$R_{DS(ON)}$	V_{GS} = -10V, I_D = -7A	-	17	25	mΩ
		V_{GS} = -4.5V, I_D = -4A	-	22	30	mΩ
Dynamic characteristics						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = -15V, f = 1MHz	-	860	-	pF
Output Capacitance	C_{oss}		-	109	-	pF
Reverse Transfer Capacitance	C_{rss}		-	84	-	pF
Total Gate Charge	Q_g	V_{GS} = 0 to -10V, V_{DS} = -15V, I_D = -5A	-	16	-	nC
Gate Source Charge	Q_{gs}		-	3	-	nC
Gate Drain("Miller") Charge	Q_{gd}		-	3	-	nC
Switching characteristics						
Turn-On DelayTime	$t_{d(on)}$	V_{GS} = -10V, V_{DD} = -15V, I_D= -5A, R_{GEN} = 3Ω	-	4	-	ns
Turn-On Rise Time	t_r		-	2	-	ns
Turn-Off DelayTime	$t_{d(off)}$		-	38	-	ns
Turn-Off Fall Time	t_f		-	22	-	ns
Drain-source diode characteristics and max ratings						
Maximum Continuous Forward Current	I_S		-	-	-7	A
Maximum Pulsed Drain Forward Current	I_{SM}		-	-	-28	A
Drain to Source Diode Forward Voltage	V_{SD}	V_{GS} = 0V, I_S = -5A	-	-	-1.2	V
Body Diode Reverse Recovery Time	trr	I_F = -5A, di/dt = 100A/us	-	10	-	ns
Body Diode Reverse Recovery Charge	Qrr		-	3	-	nC

■ TYPICAL CHARACTERISTICS

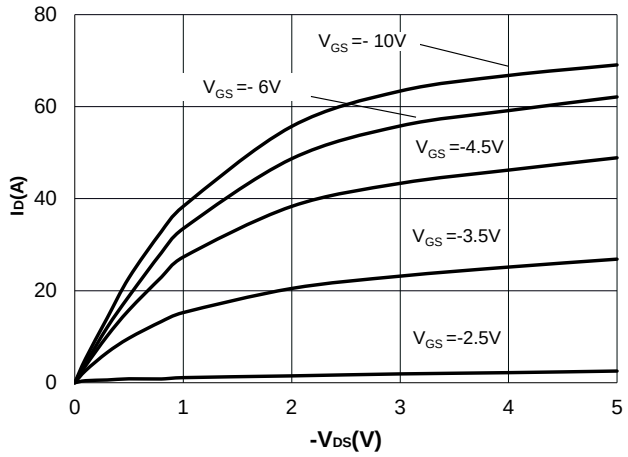


Figure 1: Output characteristics

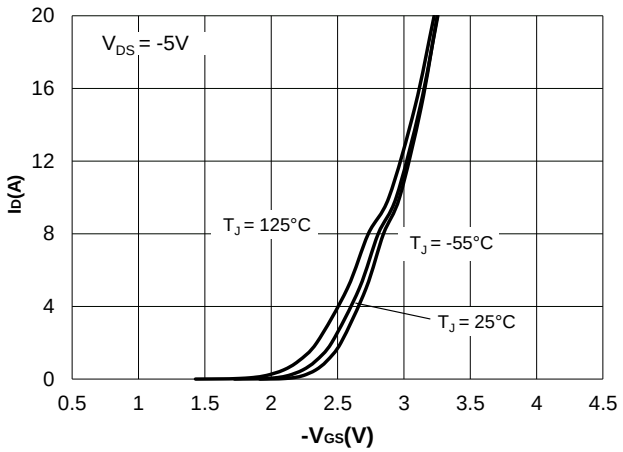


Figure 2:Typical transfer characteristics

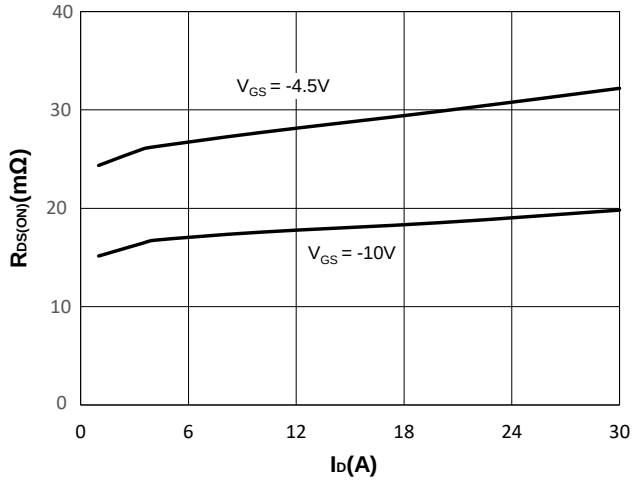


Figure 3: On-resistance vs.drain current

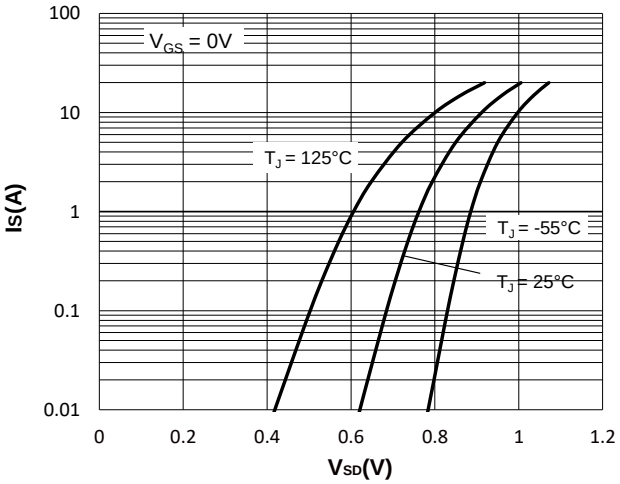


Figure 4:Body diode characteristics

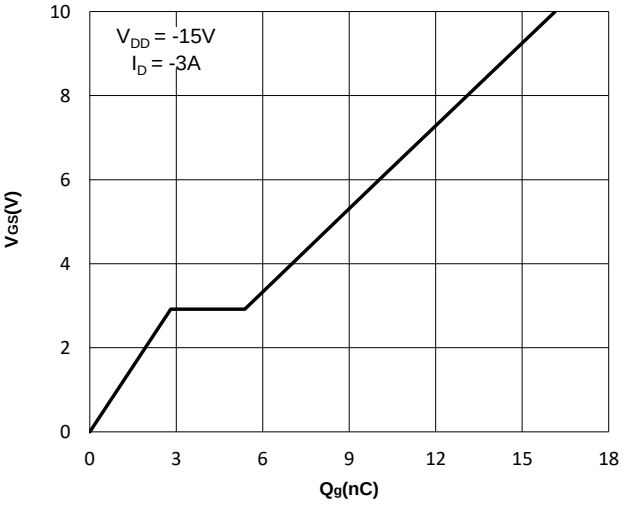


Figure 5: Gate charge characteristics

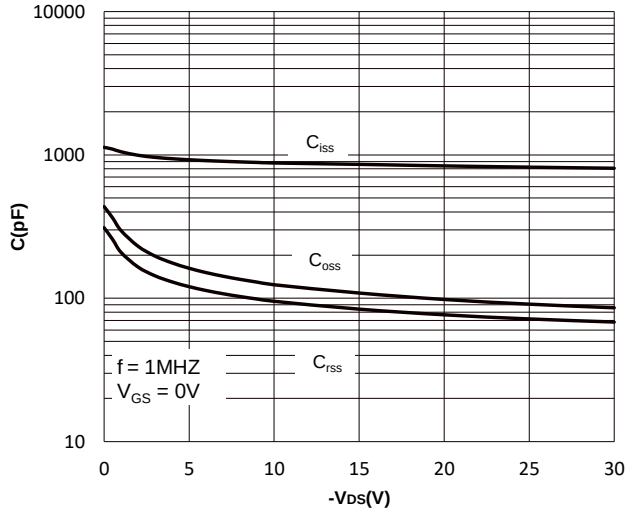


Figure 6:Capacitance characteristics

■ TYPICAL CHARACTERISTICS(Cont.)

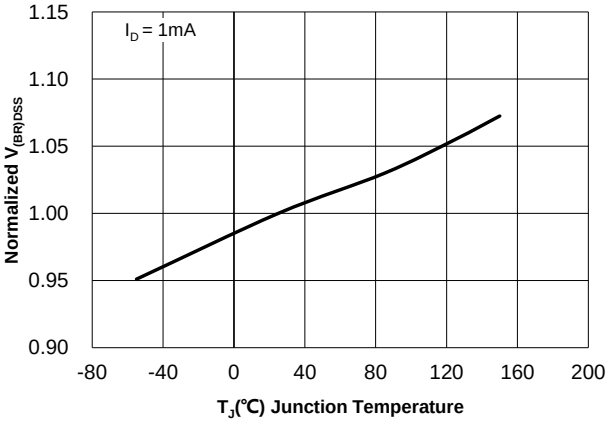


Figure 9: Normalized breakdown voltage vs. junction temperature

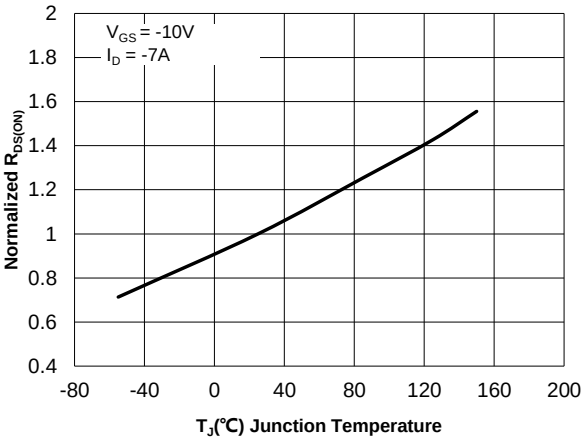


Figure 8: Normalized on resistance vs. junction temperature

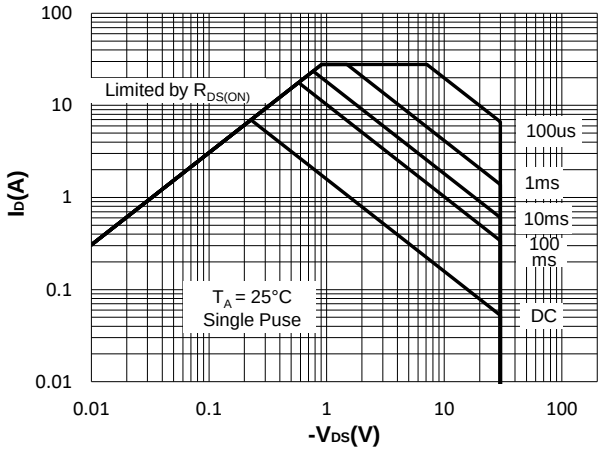


Figure 9: Mximum safe operating area

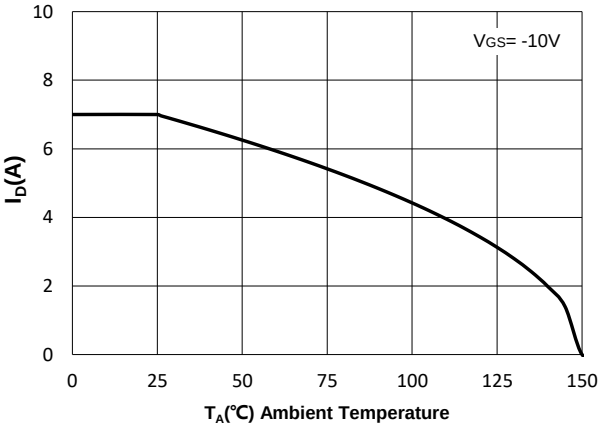
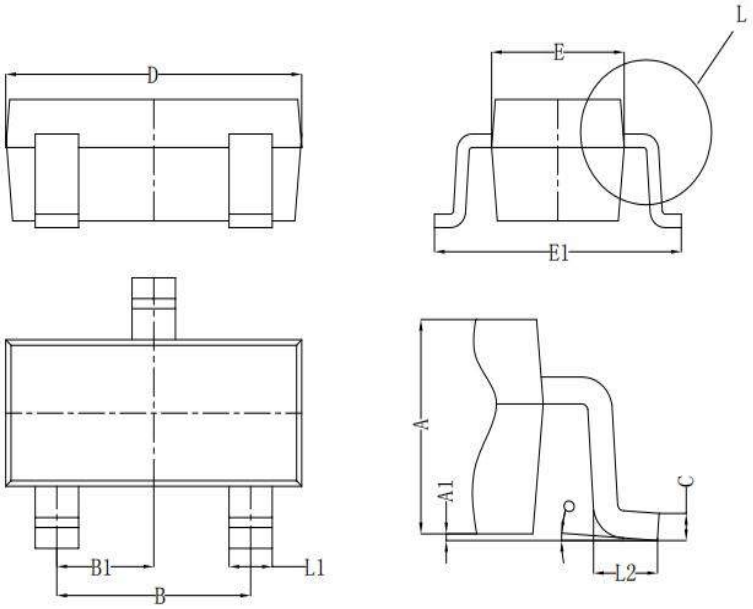


Figure 10: Maximum continuous drain current vs. ambient temperature

■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°