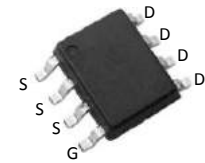
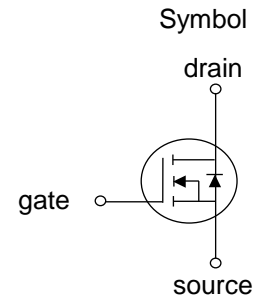


■ PRODUCT CHARACTERISTICS

VDSS	60V
$R_{DS(on)Typ}(@V_{GS}=10V)$	14.5mΩ
$R_{DS(on)Typ}(@V_{GS}=4.5V)$	17.5mΩ
ID	50A



■ APPLICATIONS

- DC/DC Converter

■ FEATURES

- Very low on-resistance $R_{DS(on)}$
- Pb-free lead plating

■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT6515S	SOP8	4000 pieces /Reel

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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous (Silicon Limited)	I_D	50	A
Drain Current-Continuous($T_C=100^{\circ}C$)	$I_{D(100^{\circ}C)}$	32	A
Pulsed Drain Current (Package Limited)	I_{DM}	200	A
Maximum Power Dissipation	P_D	3	W
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	40	$^{\circ}C/W$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 To 150	$^{\circ}C$

■ Electrical Characteristics ($T_C=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
On characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.2	1.5	2.5	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=10A$	-	14.5	16.5	m Ω
		$V_{GS}=4.5V, I_D=10A$	-	17.5	19.5	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=5V, I_D=10A$	10	-	-	S
Dynamic characteristics						
Input Capacitance	C_{iss}	$V_{DS}=20V, V_{GS}=0V,$ $F=1.0MHz$	-	2200	-	PF
Output Capacitance	C_{oss}		-	138	-	PF
Reverse Transfer Capacitance	C_{rss}		-	103	-	PF
Switching characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DS}=20V, I_D=20A,$ $V_{GS}=10V, R_G=3\Omega$	-	10	-	nS
Turn-on Rise Time	t_r		-	28	-	nS
Turn-Off Delay Time	$t_{d(off)}$		-	40	-	nS
Turn-Off Fall Time	t_f		-	7	-	nS
Total Gate Charge	Q_g	$V_{DS}=15V, I_D=30A,$ $V_{GS}=10V$	-	72	-	nC
Gate-Source Charge	Q_{gs}		-	17	-	nC
Gate-Drain Charge	Q_{gd}		-	9	-	nC
Drain-source diode characteristics						
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=10A$	-	-	1.2	V
Diode Forward Current	I_S		-	-	50	A
Reverse Recovery Time	t_{rr}	$T_J = 25^\circ\text{C}, I_F = 20A$ $di/dt = 100A/\mu s$	-	27	-	nS
Reverse Recovery Charge	Q_{rr}		-	25	-	nC

■ TYPICAL CHARACTERISTICS

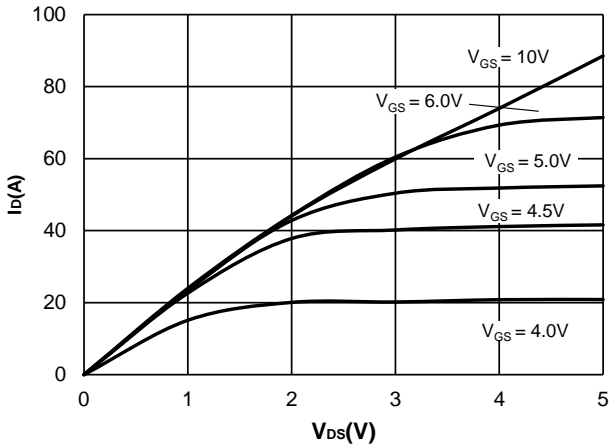


Figure 1: Output Characteristics

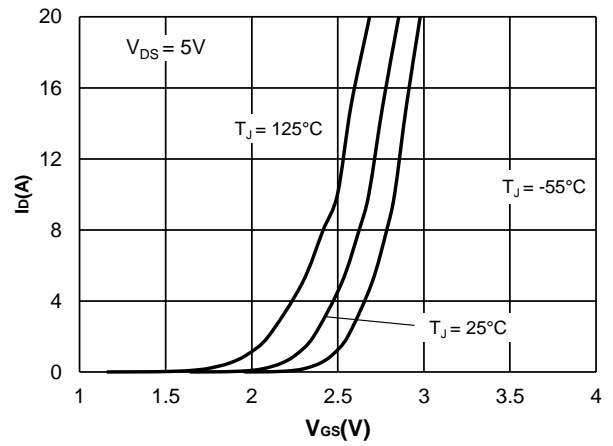


Figure 2: Typical Transfer Characteristics

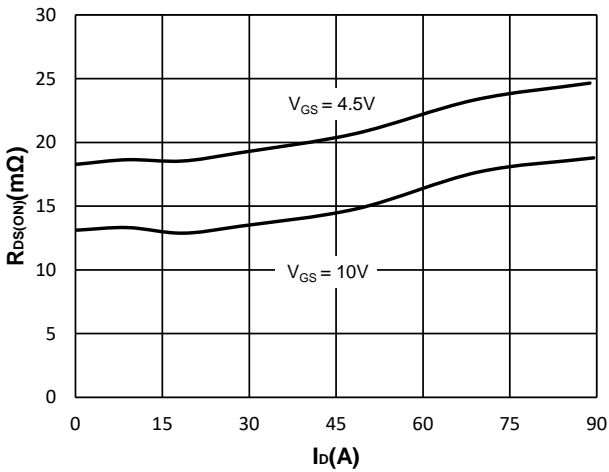


Figure 3: On-resistance vs. Drain Current

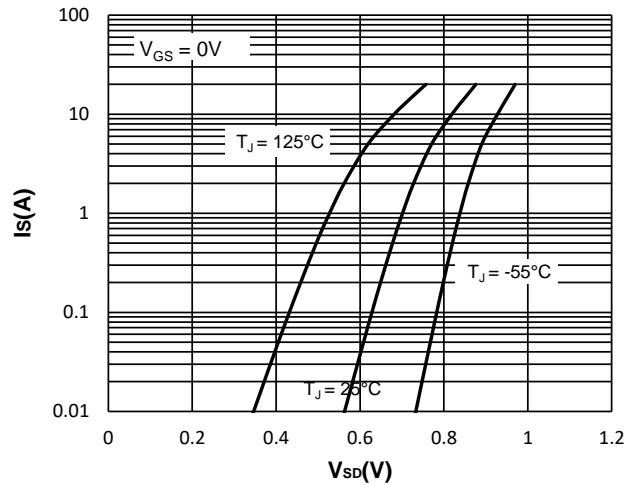


Figure 4: Body Diode Characteristics

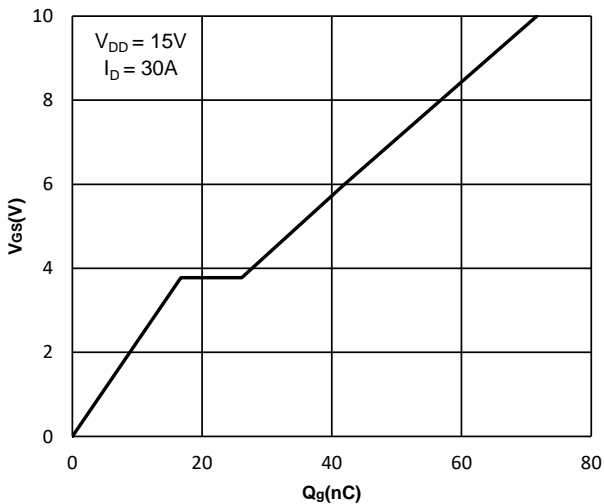


Figure 5: Gate Charge Characteristics

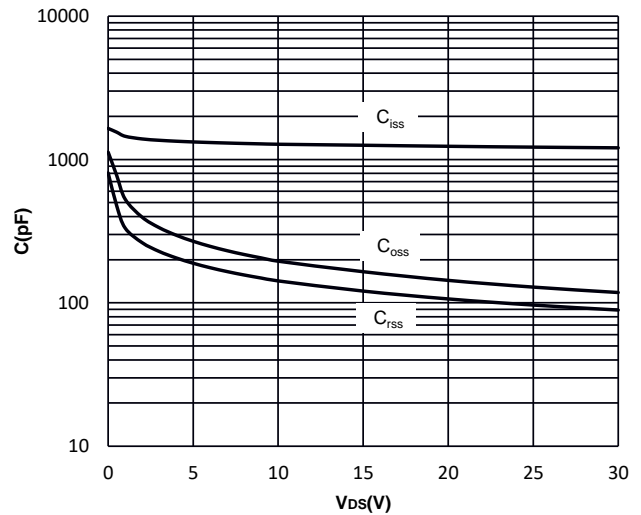


Figure 6: Capacitance Characteristics

■ TYPIACL CHARACTERISTICS(Cont.)

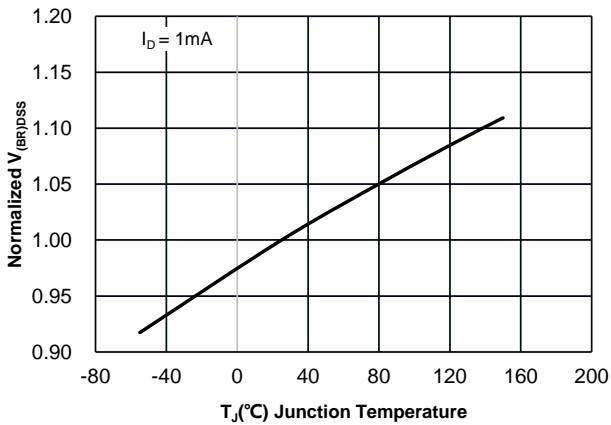


Figure 7: Normalized Breakdown voltage vs. Junction Temperature

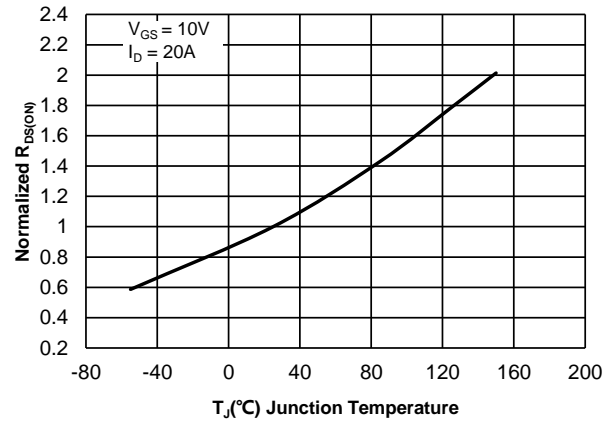


Figure 8: Normalized on Resistance vs. Junction Temperature

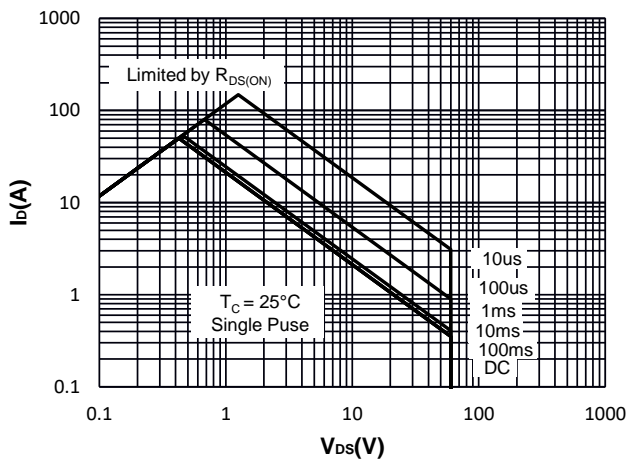


Figure 9: Maximum Safe Operating Area

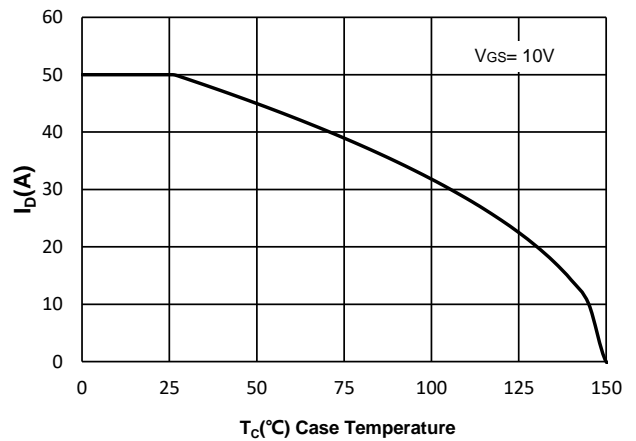


Figure 10: Maximum Continuous Drian Current vs. Case Temperature