

■ PRODUCT CHARACTERISTICS

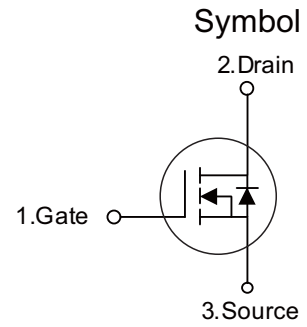
V _{DSS}	60V
R _{DS(ON)} -Typ (atV _{GS} =10V)	15mΩ
R _{DS(ON)} -Typ (atV _{GS} =4.5V)	19mΩ
I _D	35A

■ APPLICATIONS

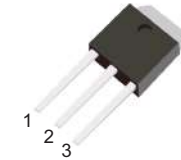
- Load Switch
- PWM Application
- Power Management

■ FEATURES

- Advanced Trench Technology
- Excellent R_{DS(ON)} and Low Gate Charge
- Lead Free



TO-252



TO-251

■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT6522D	TO-252	2500 pieces/Reel
N/A	MOT6522C	TO-251	70 pieces/Tube

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DSS}	60	V
Gate -Source Voltage	V _{GSS}	±20	V
Continuous Drain Current	I _D	T _C =25°C	35
		T _C =100°C	22.8
Pulsed Drain Current	I _{DM}	140	A
Single Pulsed Avalanche Energy	E _{AS}	165	mJ
Power Dissipation	P _D	42	W
Thermal Resistance, Junction to Case	R _{θJC}	3	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

■ ELECTRICAL CHARACTERISTICS (T_J = 25°C, unless otherwise noted)

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Off characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250μA	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} =±20V, V _{DS} =0V	-	-	±100	nA
On characteristics						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0	-	2.5	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =20A	-	15	22	mΩ
		V _{GS} =4.5V, I _D =20A	-	19	26	mΩ
Forward Transconductance	g _{FS}	V _{DS} =10V, I _D =5A	10	-	-	S
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, F=1.0MHz	-	678	-	PF
Output Capacitance	C _{oss}		-	380	-	PF
Reverse Transfer Capacitance	C _{rss}		-	14	-	PF
Switching characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =30V, I _D =30A, V _{GS} =10V, R _G =1.8Ω	-	11	-	nS
Turn-on Rise Time	t _r		-	79	-	nS
Turn-Off Delay Time	t _{d(off)}		-	33	-	nS
Turn-Off Fall Time	t _f		-	107	-	nS
Total Gate Charge	Q _g	V _{DS} =30V, I _D =30A, V _{GS} =10V	-	45	-	nC
Gate-Source Charge	Q _{gs}		-	8	-	nC
Gate-Drain Charge	Q _{gd}		-	11	-	nC
Drain-source diode characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =10A	-	-	1.2	V
Diode Forward Current	I _S		-	-	35	A
Reverse Recovery Time	t _{rr}	T _J = 25°C, I _F = 30A di/dt = 100A/μs	-	14	-	nS
Reverse Recovery Charge	Q _{rr}		-	10	-	nC

■ TYPICAL CHARACTERISTICS

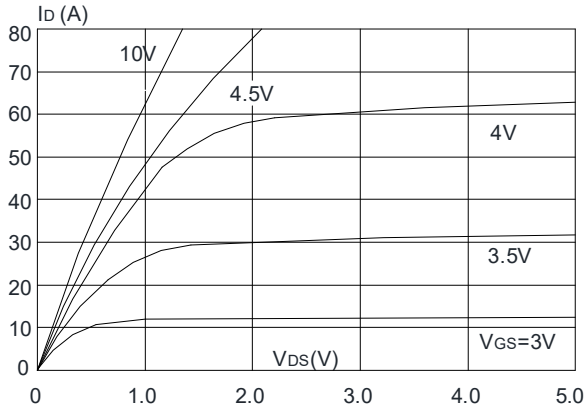


Figure 1: Output Characteristics

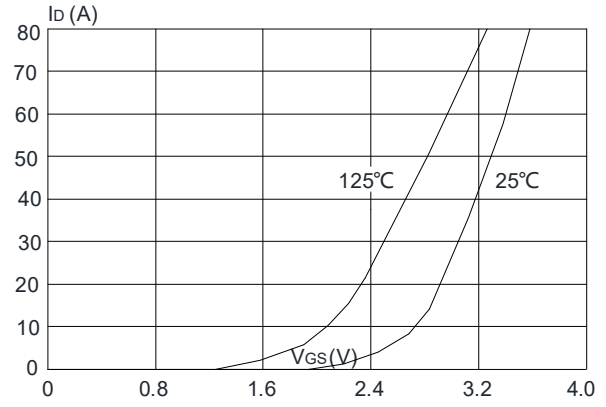


Figure 2: Typical Transfer Characteristics

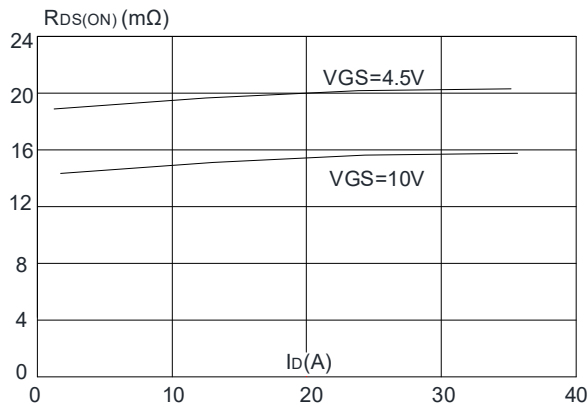


Figure 3: On-resistance vs. Drain Current

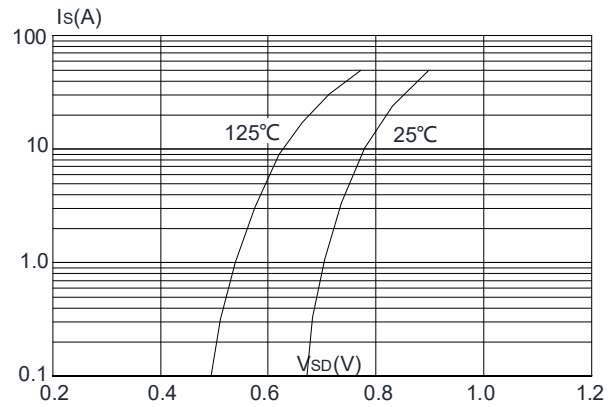


Figure 4: Body Diode Characteristics

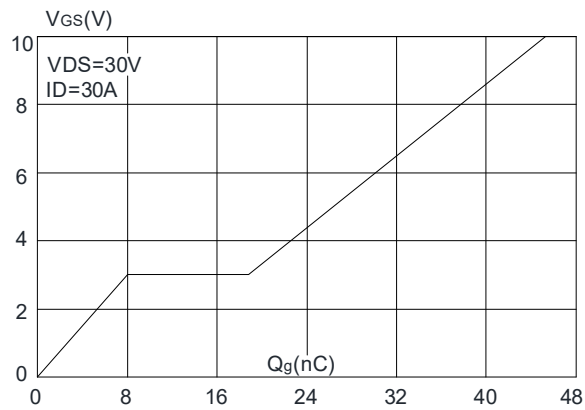


Figure 5: Gate Charge Characteristics

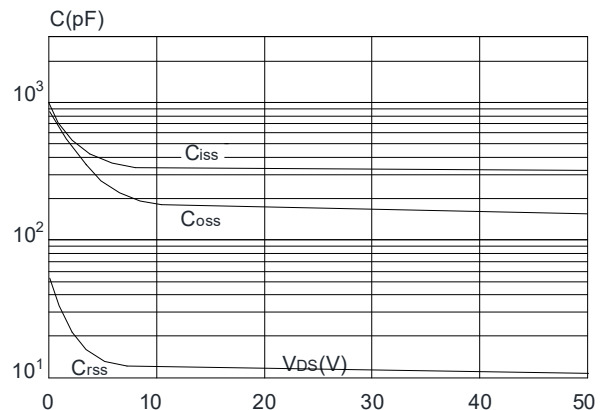


Figure 6: Capacitance Characteristics

■ TYPICAL CHARACTERISTICS(Cont.)

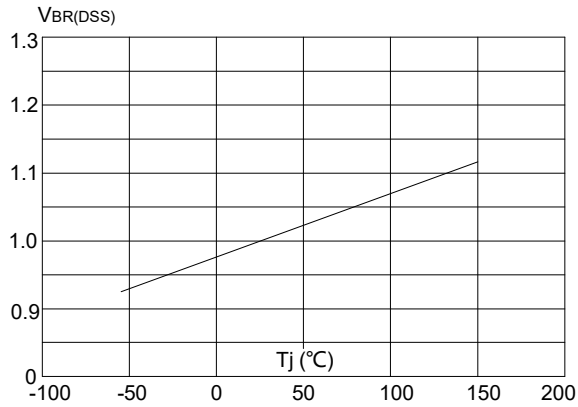


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

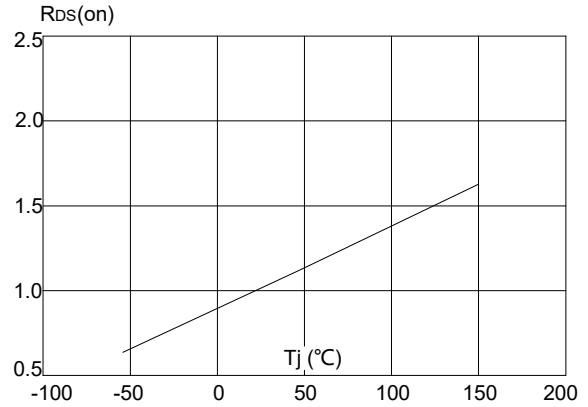


Figure 8: Normalized on Resistance vs. Junction Temperature

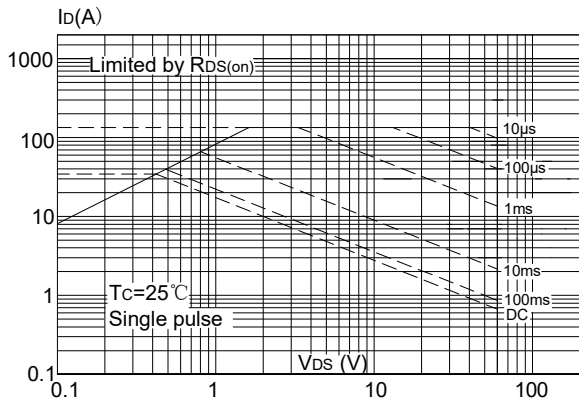


Figure 9: Maximum Safe Operating Area

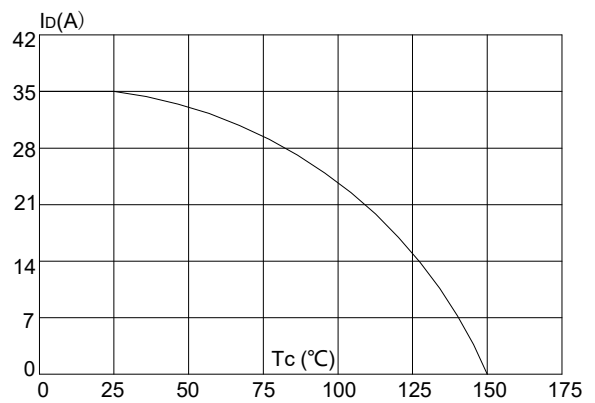
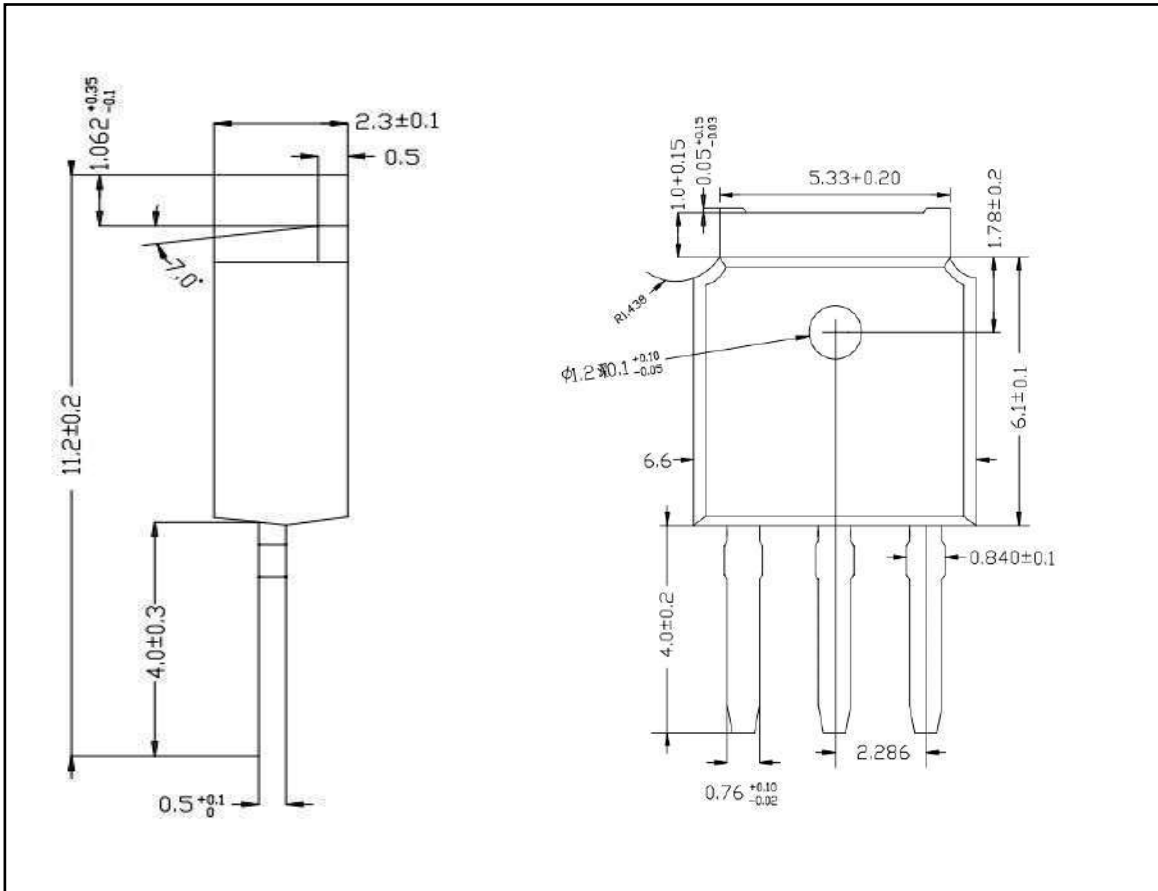
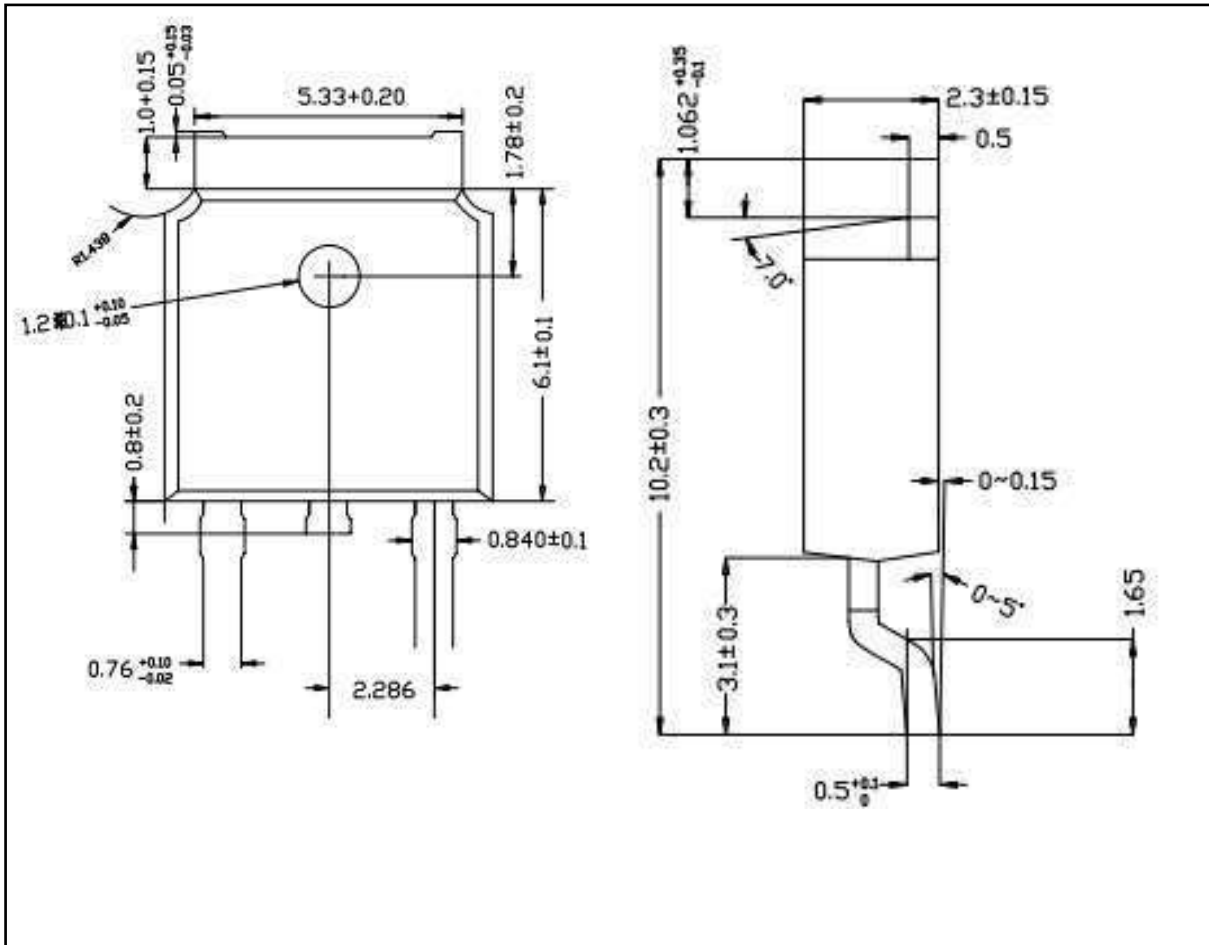


Figure 10: Maximum Continuous Drain Current vs. Case Temperature

■ TO-251 PACKAGE OUTLINE DIMENSIONS



■ TO-252 PACKAGE OUTLINE DIMENSIONS



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