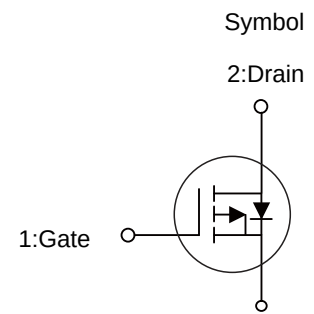


PRODUCT CHARACTERISTICS

V_{DSS}	-100V
$R_{DS(ON)} Typ(@V_{GS}=-10V)$	49m Ω
$R_{DS(ON)} Typ(@V_{GS}=-4.5V)$	55m Ω
I_D	-30A



APPLICATIONS

- * Electronic lamp ballasts based on half bridge
- * Load Switching, Quick/Wireless Charge.
- * Motor Driving

FEATURE

- * Low Gate Charge
- * Pb-Free Lead Plating



TO-252

ORDER INFORMATION

Order Codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT1752D	TO-252	2500 pieces/Reel

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

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DSS}	-100	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current Continuous($@V_{GS}=10V, T_c=25^{\circ}C$)	I_D	-30	A
Drain Current Pulsed	I_{DM}	-120	A
Avalanche Energy	E_{AS}	210	mJ
Power Dissipation	P_D	92	W
Junction Temperature	T_J	+150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}C$

THERMAL CHARACTERISTICS

Parameter	Symbol	Typ	Unit
Junction to Case	R_{thJC}	1.36	$^{\circ}C/W$

■ ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Off characteristics						
Drain to Source Breakdown Voltage	V _{DSS}	V _{GS} =0V,I _D =-250μA	-100	-	-	V
Drain to Source Leakage Current	I _{DSS}	V _{DS} =-100V,V _{GS} =0V	-	-	-1	μA
Gate to Source Forward Leakage	I _{GSS(F)}	V _{GS} =+20V,V _{DS} =0V	-	-	100	nA
Gate to Source Reverse Leakage	I _{GSS(R)}	V _{GS} =-20V ,V _{DS} =0V	-	-	-100	nA
On characteristics						
Drain to Source On-Resistance	R _{DS(ON)}	V _{GS} =-10V,I _D =-15 A	-	49	60	mΩ
		V _{GS} =-4.5V,I _D =-15 A	-	55	65	mΩ
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} ,I _D =-250μA	-1	-2.0	-2.5	V
Dynamic characteristics						
Gate Resistance	R _g	V _{GS} =0V,V _{DS} =0V ,f=1.0MHz	-	9	-	Ω
Forward Transconductance	g _{fs}	V _{DS} =-10V,I _D =-3A	-	11	-	S
Input Capacitance	C _{iss}	V _{DS} =-20V,V _{GS} =0V f=1.0MHz	-	7400	-	pF
Output Capacitance	C _{oss}		-	200	-	pF
Reverse Transfer Capacitance	C _{rss}		-	170	-	pF
Resistive Switching Characteristics						
Turn-on Delay Time	t _{d(ON)}	V _{GS} =-15V,V _{DS} =-50V, I _D =-10A,R _G =9.1Ω	-	15	-	ns
Rise Time	t _r		-	72	-	ns
Turn-off Delay Time	t _{d(OFF)}		-	37	-	ns
Fall Time	t _f		-	58	-	ns
Total Gate Charge	Q _g	I _D =-15 A, V _{DS} =-50V V _{GS} =-10V	-	115	-	nC
Gate to Source Charge	Q _{gs}		-	20	-	nC
Gate to Drain("Miller") Charge	Q _{gd}		-	25	-	nC
Source-Drain Diode Characteristics						
Continuous Source Current(Body Diode)	I _s		-	-	-30	A
Maximum Pulsed Current(Body Diode)	I _{SM}		-	-	-120	A
Diode Forward Voltage	V _{SD}	I _{SD} =-1A, V _{GS} =0V	-	-0.72	-1.2	V
Reverse Recovery Time	t _{rr}	I _{SD} =-15 A, T _J =25 °C dI/dt=100A/μs	-	85	-	ns
Reverse Recovery Charge	Q _{rr}		-	145	-	nC

■ TYPICAL CHARACTERISTICS

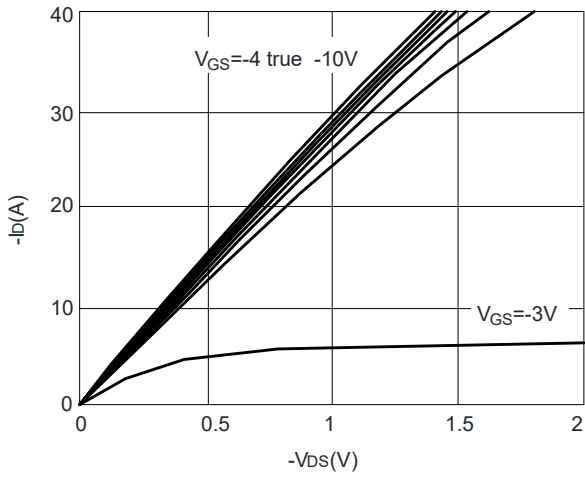


Figure 1: Output Characteristics

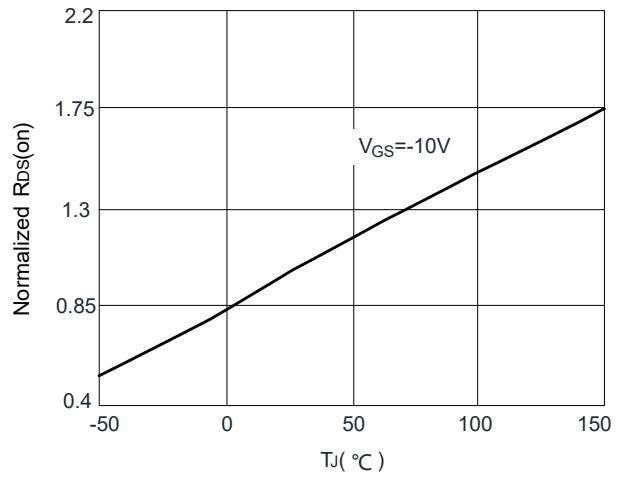


Figure 2: $R_{DS(ON)}$ vs. Temperature

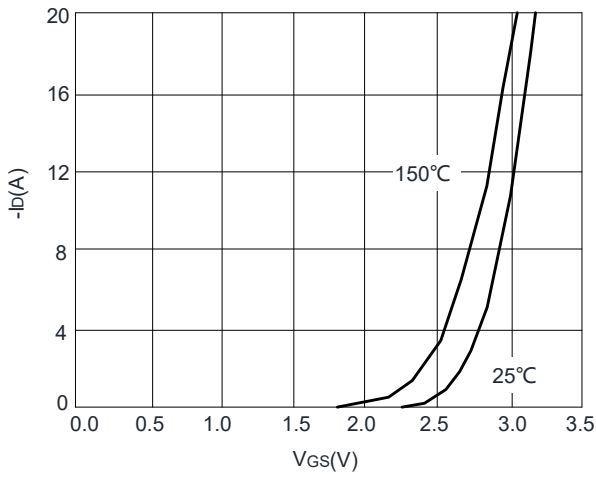


Figure 3: Transfer Characteristics

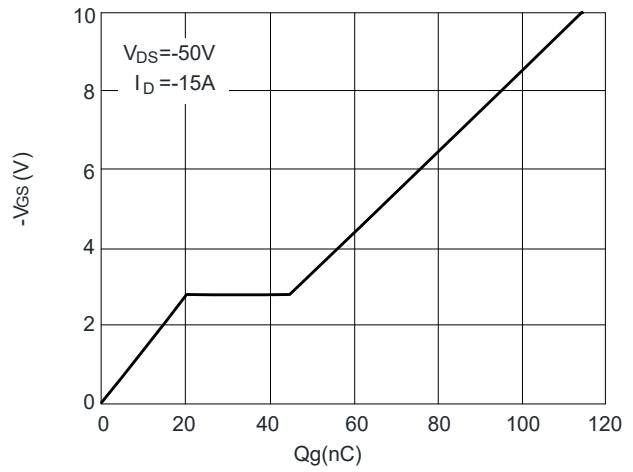


Figure 4: Gate Charge Characteristics

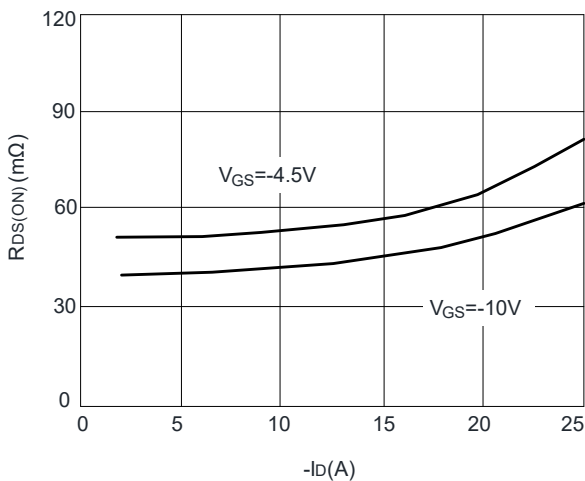


Figure 5: On-resistance vs. Drain Current

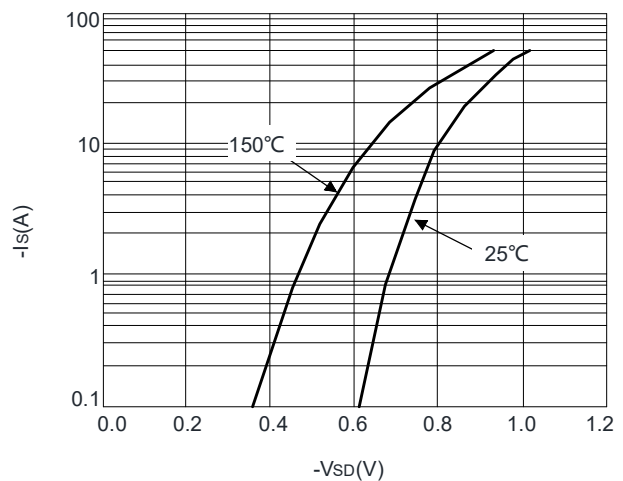
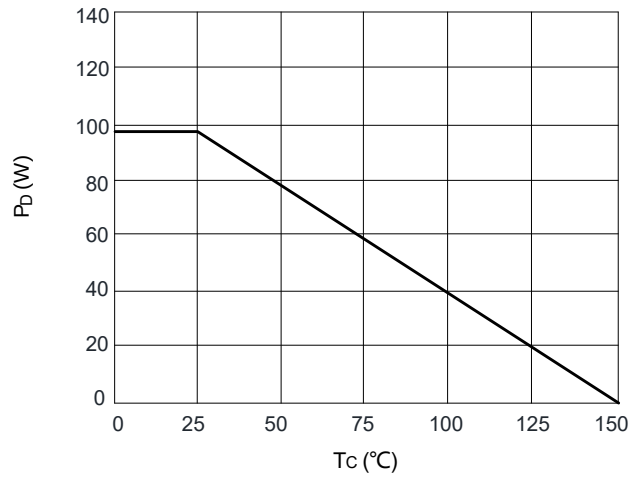
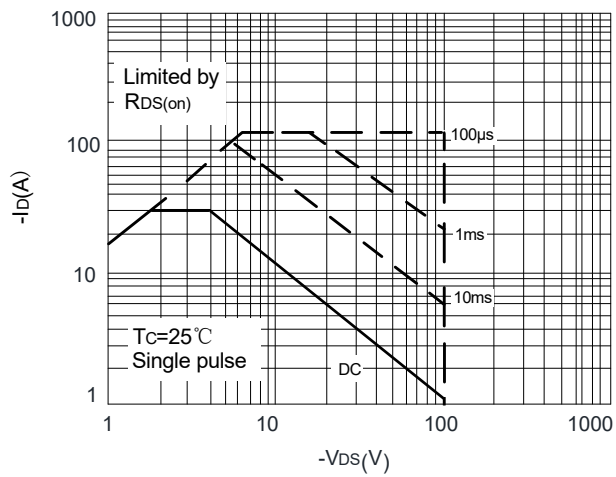
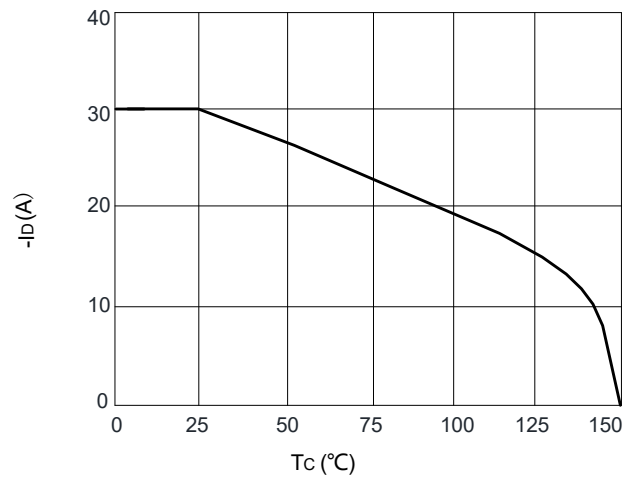
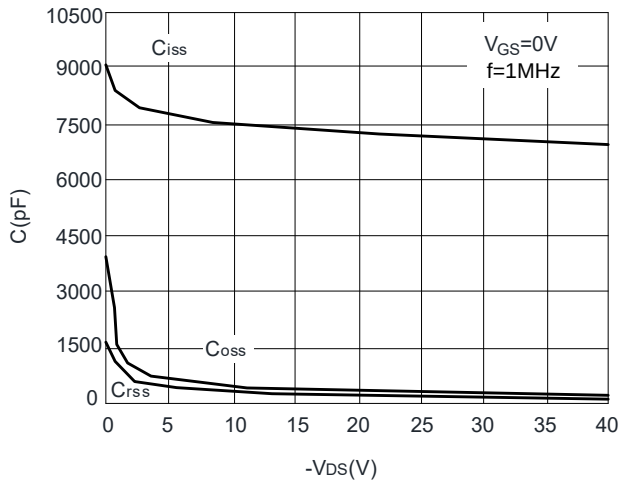


Figure 6: Body Diode Characteristics

■ TYPICAL CHARACTERISTICS(Cont.)



■ TO-252 PACKAGE OUTLINE DIMENSIONS

