

■ PRODUCT CHARACTERISTICS

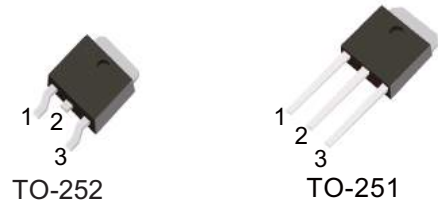
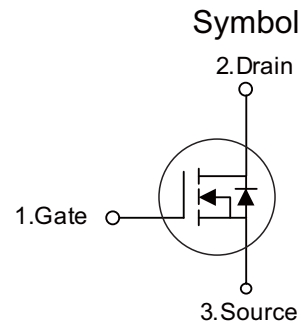
VDSS	30V
$R_{DS(on)Typ}(V_{GS}=10V)$	6.5mΩ
$R_{DS(on)Typ}(V_{GS}=4.5V)$	10.5mΩ
ID	60A

■ APPLICATIONS

- * Switching applications

■ FEATURES

- * Low capacitance
- * Low gate charge
- * Fast switching capability
- * Avalanche energy specified



■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT60N03D	TO-252	2500 pieces /Reel
N/A	MOT60N03C	TO-251	70 pieces/Tube

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

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current ($V_{GS}=10V$)	I_D	60	A
Power Dissipation	P_D	45	W
Derate above 25°C		0.37	W/ $^{\circ}\text{C}$
Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

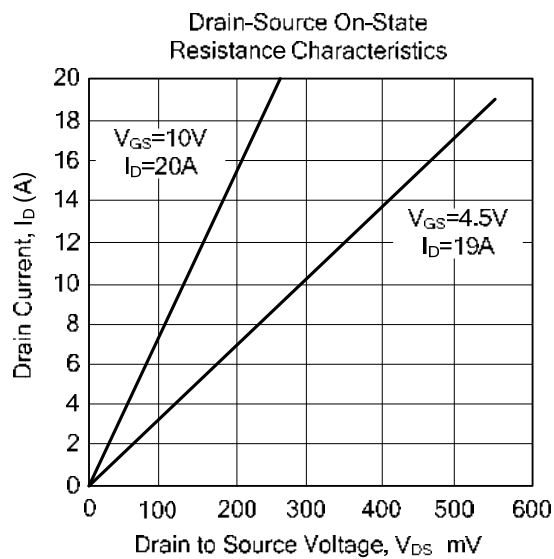
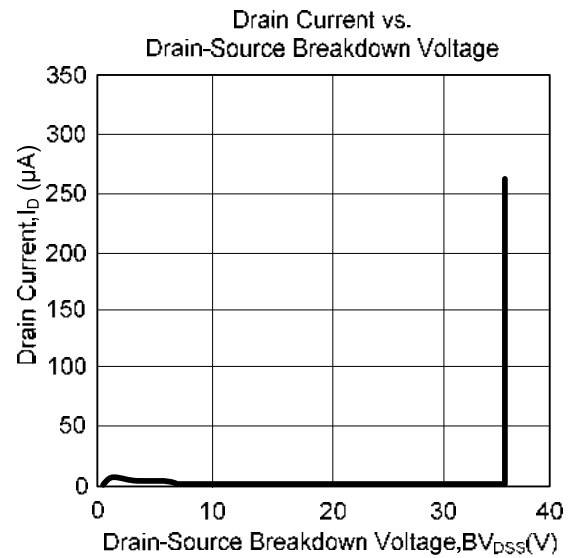
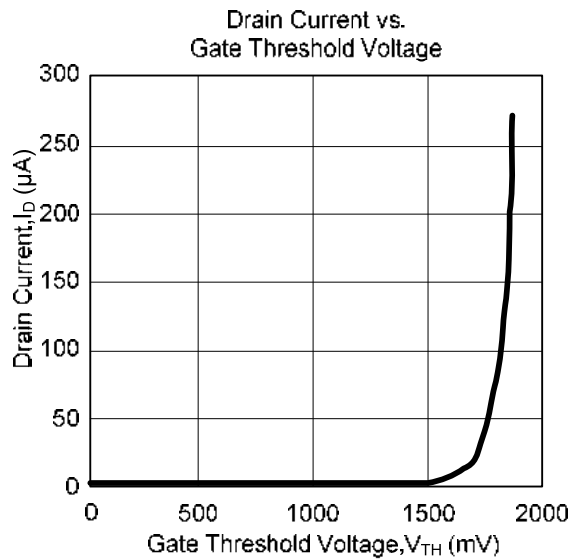
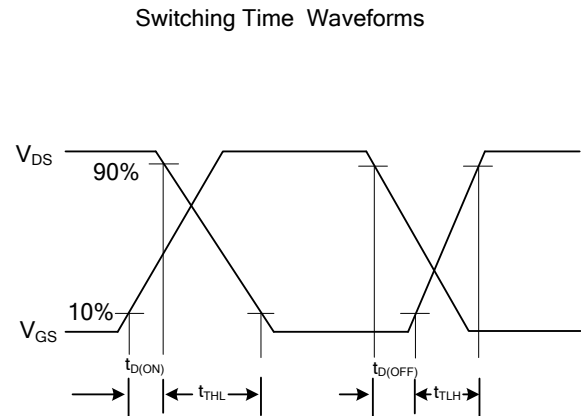
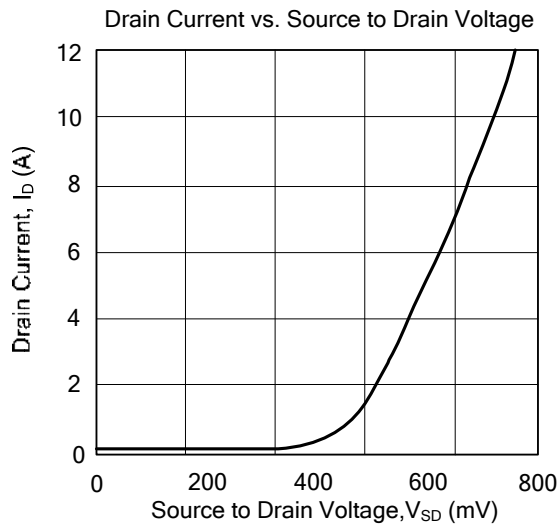
■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	100	$^{\circ}\text{C}/\text{W}$
Junction to Case	θ_{JC}	2.73	$^{\circ}\text{C}/\text{W}$

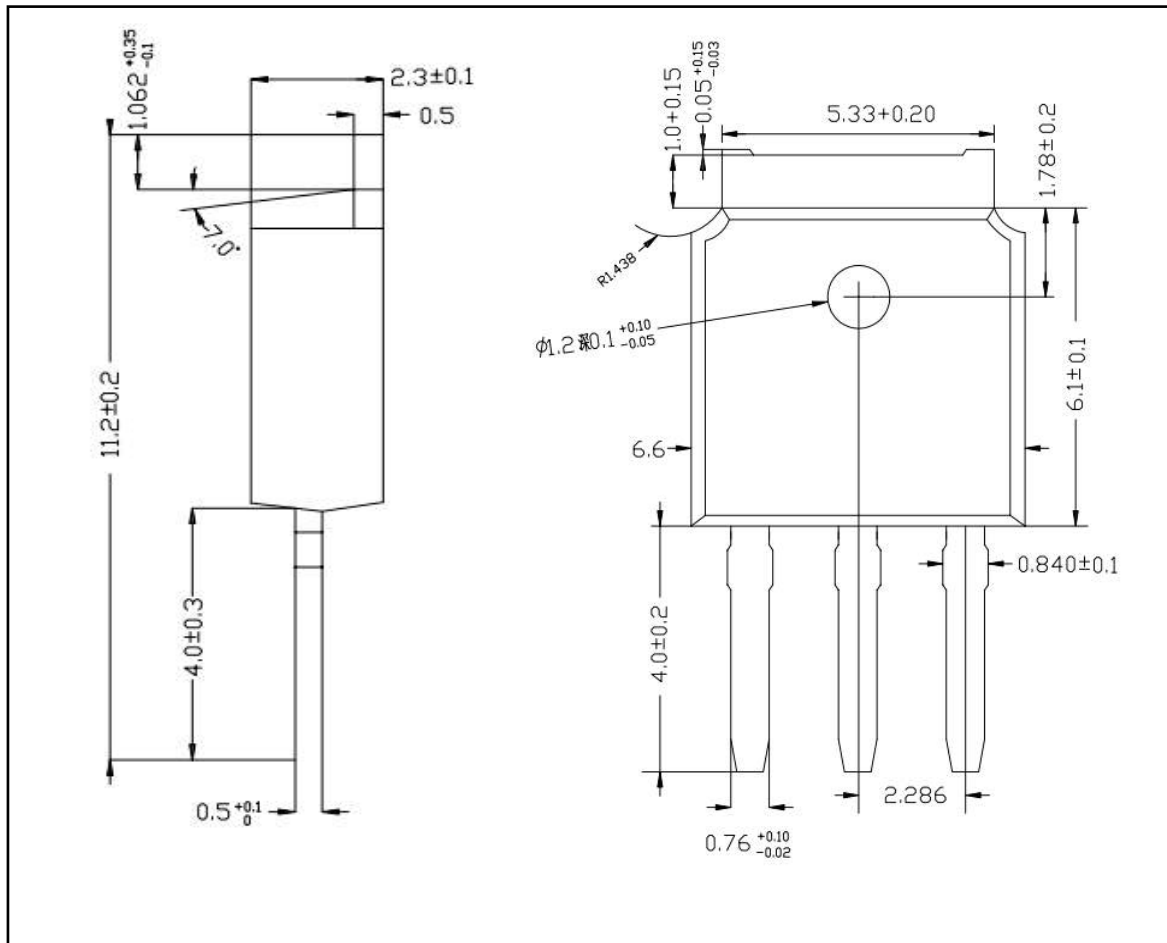
■ ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$, unless otherwise noted)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Off characteristics							
Drain-Source Breakdown Voltage		BV _{DSS}	V _{GS} =0V, I _D =250μA	30	-	-	V
Drain-Source Leakage Current		I _{DSS}	V _{DS} =25V, V _{GS} =0V	-	-	1	μA
Gate-Source 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	-	3	V
Static Drain-Source On-Resistance		R _{DS(ON)}	V _{GS} =10V, I _D =15A	-	6.5	9	mΩ
			V _{GS} =4.5V, I _D =10A	-	10.5	15	
Dynamic characteristics							
Input Capacitance		C _{ISS}	V _{DS} =15V, V _{GS} =0V, f=1MHz	-	900	-	pF
Output Capacitance		C _{OSS}		-	210	-	pF
Reverse Transfer Capacitance		C _{RSS}		-	90	-	pF
Switching characteristics							
Turn-ON Time		t _(ON)	V _{DD} =15V, I _D =7.9A, R _L =18Ω, V _{GS} =4.5V	-	90	-	ns
Turn-ON Delay Time		t _{D(ON)}		-	11	-	ns
Turn-ON Rise Time		t _R		-	49	-	ns
Turn-OFF Time		t _(OFF)		-	83	-	ns
Turn-OFF Delay Time		t _{D(OFF)}		-	27	-	ns
Turn-OFF Fall-Time		t _F		-	28	-	ns
Turn-ON Time		t _(ON)	V _{DD} =15V, I _D =7.9A, R _L =18Ω, V _{GS} =10V	-	48	-	ns
Turn-ON Delay Time		t _{D(ON)}		-	6	-	ns
Turn-ON Rise Time		t _R		-	26	-	ns
Turn-OFF Time		t _(OFF)		-	120	-	ns
Turn-OFF Delay Time		t _{D(OFF)}		-	52	-	ns
Turn-OFF Fall-Time		t _F		-	28	-	ns
Total Gate Charge	5V	Q _G	V _{GS} =0V~5V, V _{DD} =15V, I _D =19A I _G =1.0mA	-	18	-	nC
	10V		V _{GS} =0V~10V, V _{DD} =15V, I _D =19A, I _G =1.0mA	-	9.6	-	
Threshold Gate Charge		Q _{G(TH)}	V _{GS} =0V~1V, V _{DD} =15V, I _D =19A I _G =1.0mA	-	1.0	-	nC
Gate-Source Charge		Q _{GS}	V _{DD} =15V, I _D =19A I _G =1.0mA	-	3.4	-	nC
Gate-Drain Charge		Q _{GD}		-	3.4	-	nC
Source-drain diode ratings and characteristics							
Drain-Source Diode Forward Voltage		V _{SD}	I _{SD} =19A	-	-	1.25	V
			I _{SD} =10A	-	-	1.0	
Reverse Recovery Time		t _{rr}	I _{SD} =9A, dI _S /dt =100A/s,	-	-	58	ns
Reverse Recovery Charge		Q _{RR}		-	-	70	nC

■ TYPICAL CHARACTERISTICS



■ TO-251PACKAGE OUTLINE DIMENSIONS



■ TO-252 PACKAGE OUTLINE DIMENSIONS

