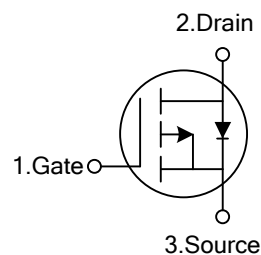


■ PRODUCT CHARACTERISTICS

VDSS	-60V
$R_{DS(on)typ}(@V_{GS}=-10V)$	12mΩ
$R_{DS(on)typ}(@V_{GS}=-4.5V)$	14mΩ
ID	-80A

Symbol

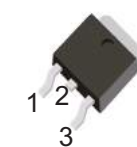


■ APPLICATIONS

- * Motor driver appliances
- * Adapter appliances
- * High power inverter system

■ FEATURES

- * Surface-mounted package
- * Low gate charge



TO-252



TO-251

■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT80P06D	TO-252	2500 pieces /Reel
N/A	MOT80P06C	TO-251	70 pieces/Tube

■ ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current (DC)	I_D	-80	A
	$I_D(100^{\circ}C)$	-42	A
Drain Current (Pulsed)	I_{DM}	192	A
Drain power dissipation	P_{tot}	50	W
Diode Forward Current	I_S	-80	A
Single Pulsed Avalanche Energy	E_{AS}	276	mJ
Thermal Resistance- Junction to Ambient	$R_{\theta JA}$	50	°C/W
Thermal Resistance- Junction to Case	$R_{\theta JC}$	2.5	°C/W
Storage Temperature	T_{stg}	-55~+150	°C
Junction Temperature	T_J	150	°C

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _{DS} =-250μA	-60	-	-	V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _{DS} =-250μA	-1	-	-3	V
Drain Leakage Current	I _{DSS}	V _{DS} =- 48V , V _{GS} =0V	-	-	-1	μA
Gate Leakage Current	I _{GSS}	V _{GS} =0V, V _{GS} =±20V	-	-	±100	nA
On-State Resistance	R _{DS(ON)}	V _{GS} =-10V, I _{DS} =-15A	-	12	15	mΩ
		V _{GS} =-4.5 V, I _{DS} =-10A	-	14	20	mΩ
Diode Characteristics						
Diode Forward Voltage	V _{SD}	I _{SD} =-15A, V _{GS} =0V	-	-	-1.3	V
Reverse Recovery Time	t _{rr}	I _{SD} =-15A, dI _{SD} /dt =100A/μs	-	23	-	nS
Reverse Recovery Charge	Q _{rr}		-	23	-	nC
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{GS} = 0 V, V _{DS} =-30V Frequency = 1MHz	-	4584	-	pF
Output Capacitance	C _{oss}		-	178	-	pF
Reverse Transfer Capacitance	C _{rss}		-	133	-	pF
Turn-on Delay Time	t _{d(on)}	V _{DS} =-30V, V _{GEN} =-10V, R _G =3.9Ω, R _L =2Ω, I _{DS} =-15A	-	66	-	nS
Turn-on Rise Time	t _r		-	101	-	nS
Turn-off Delay Time	t _{d(off)}		-	465	-	nS
Turn-off Fall Time	t _f		-	205	-	nS
Gate Charge Characteristics						
Total Gate Charge	Q _g	V _{DS} =-30V, V _{GS} =-10V, I _{DS} =-15A	-	72	-	nC
Gate-Source Charge	Q _{gs}		-	19	-	nC
Gate-Drain Charge	Q _{gd}		-	9.8	-	nC

■ TYPICAL CHARACTERISTICS

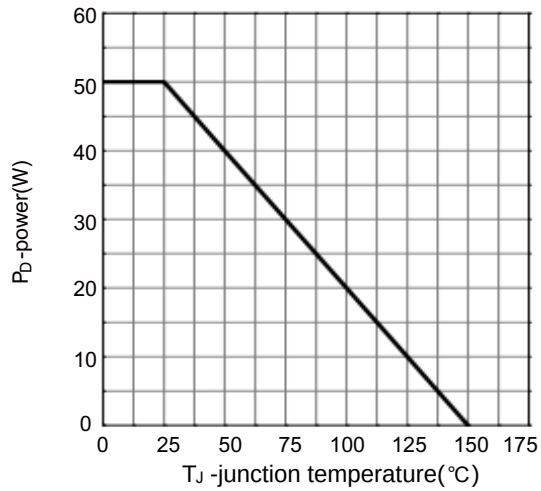


Figure 1 Power capability

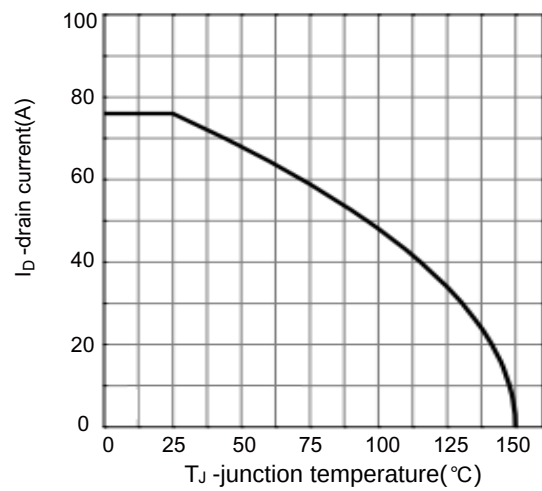


Figure 2 Current capability

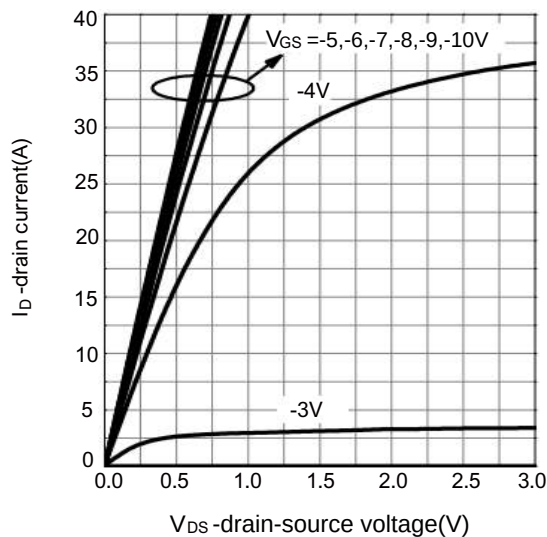


Figure 3 Output characteristics

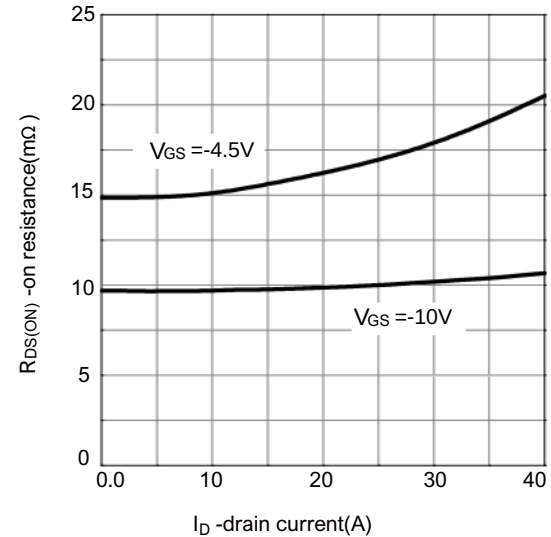


Figure 4 Drain-source on resistance

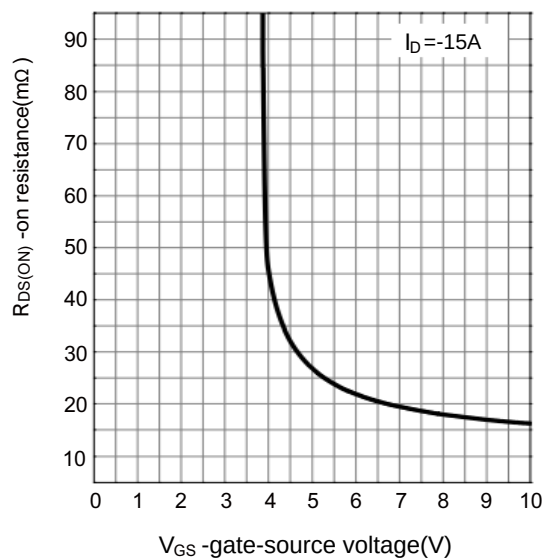


Figure 5 Transfer characteristics

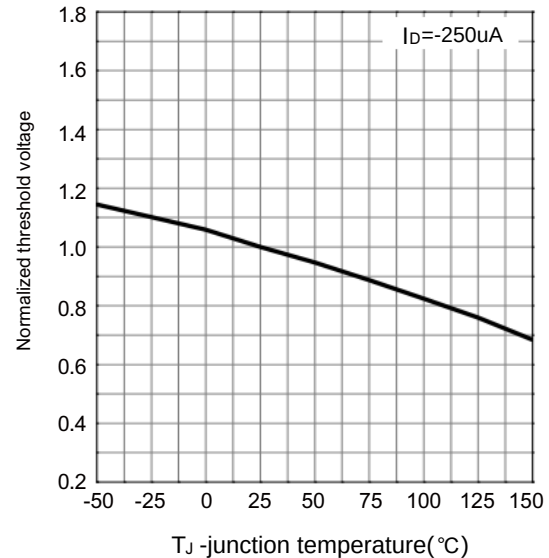


Figure 6 Normalized threshold voltage

■ TYPICAL CHARACTERISTICS

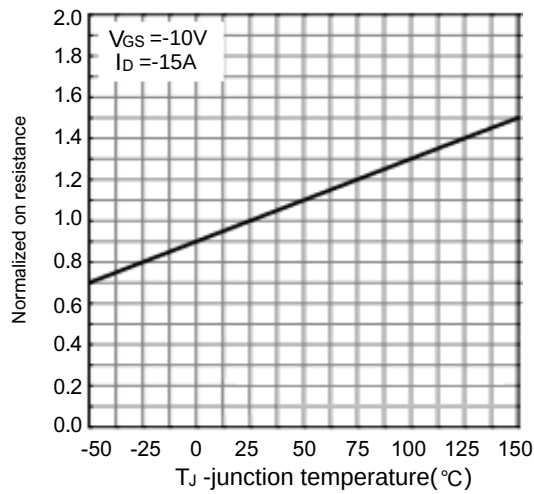


Figure 7 Normalized on resistance

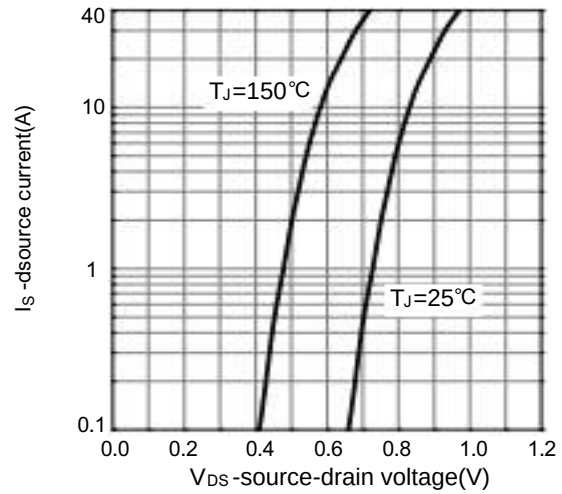


Figure 8 Diode forward current

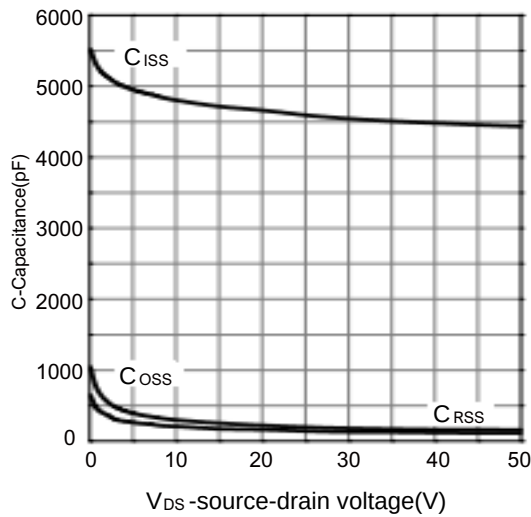


Figure 9 Capacitance

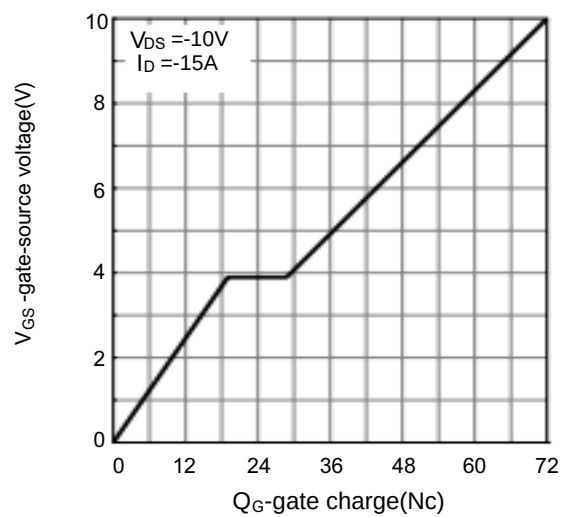


Figure 10 Gate charge

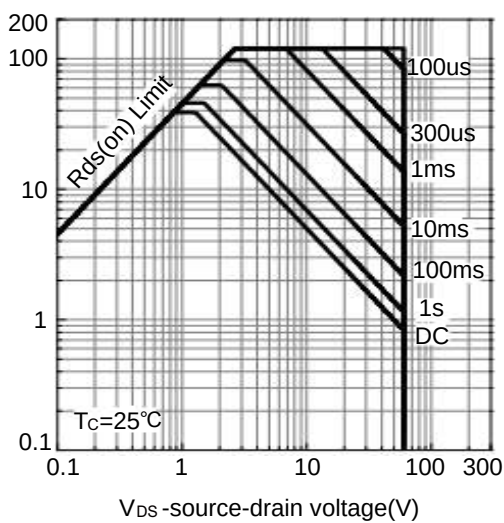
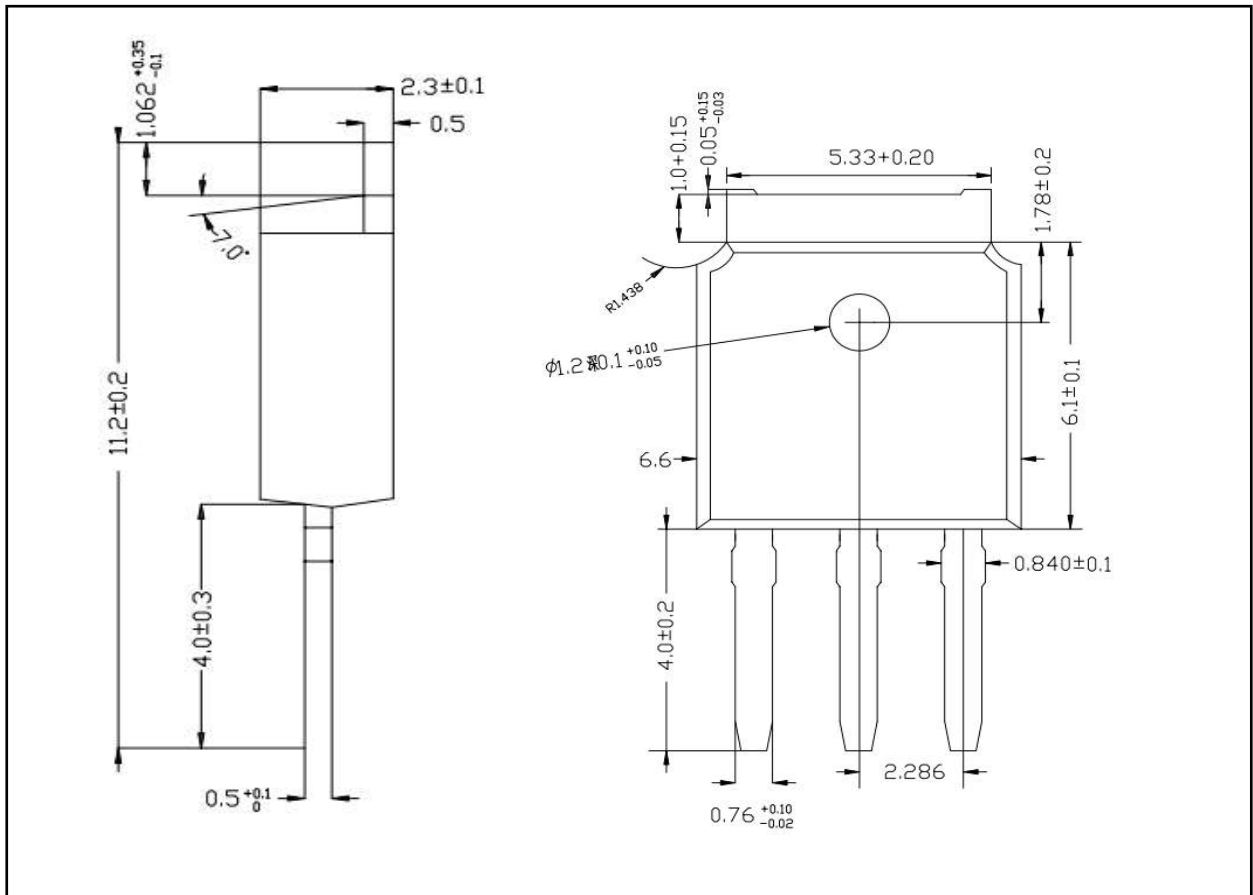


Figure 11 Safe operation area

■ TO-251 PACKAGE OUTLINE DIMENSIONS



■ TO-252 PACKAGE OUTLINE DIMENSIONS

