

Features

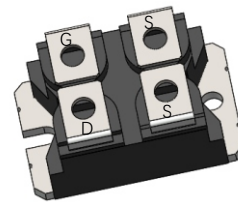
- Fast switching
- High input impedance
- Wide Safe operating area
- Good temperature stability

Product Summary			
V _{DS}	R _{DS(on)} (mΩ)Typ	I _D (A)	Q _g (Typ)
80V	0.73@10V 160A	520	400nc

SOT-227

Mechanical Data

- Case: SOT-227 Package



Application

- Power switching applications
- DC - DC Converters
- Full bridge control

Block Diagram

Pin Definition:

- G. Gate
- D. Drain
- S. Source

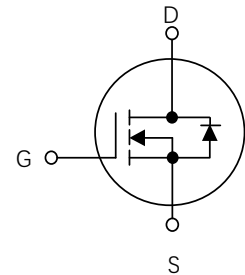


Table1 Absolute Maximum Ratings(T_c=25°C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	80	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current T _c =25°C, Chip capability	I _D	520	A
Terminal current limit	I _{L(RMS)}	200	A
Thermal resistance Junction to Case	R _{θJC}	0.186	°C/W
Power Dissipation T _c =25°C	P _D	672	W
Operating Junction and Storage Temperature	T _J /T _{STG}	-55~ +150	°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Off Characteristics							
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=3mA$	80	-	-	V	
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=80V, V_{GS}=0V$	-	-	50	μA	
Gate- Source Leakage Current	Forward	I_{GSS}	$V_{GS}=20V, V_{DS}=0V$	-	-	200	nA
	Reverse		$V_{GS}=-20V, V_{DS}=0V$	-	-	-200	nA
On Characteristics							
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=8mA$	2.5	-	5.0	V	
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=160A$	-	0.73	1.0	$m\Omega$	
Dynamic Characteristics							
Input Capacitance	C_{ISS}	$V_{DS}=90V, V_{GS}=0V, f=1MHz$	-	34	-	nF	
Output Capacitance	C_{OSS}		-	2800	-	pF	
Reverse Transfer Capacitance	C_{RSS}		-	910	-	pF	
Gate Resisitance			-	1.0	-	Ω	
Switching Characteristics							
Total Gate Charge	Q_G	$V_{DS}=45V, I_D=100A,$ $V_{GS}=10V$	-	400	-	nC	
Gate-Source Charge	Q_{GS}		-	120	-	nC	
Gate-Drain Charge	Q_{GD}		-	93	-	nC	

Typical Characteristics Diagrams

Figure 1. Output Characteristics

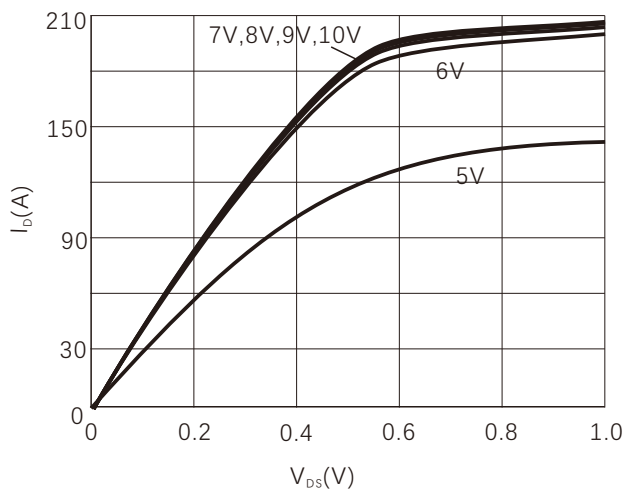


Figure 2. Normalized $R_{DS(on)}$ vs Temperature

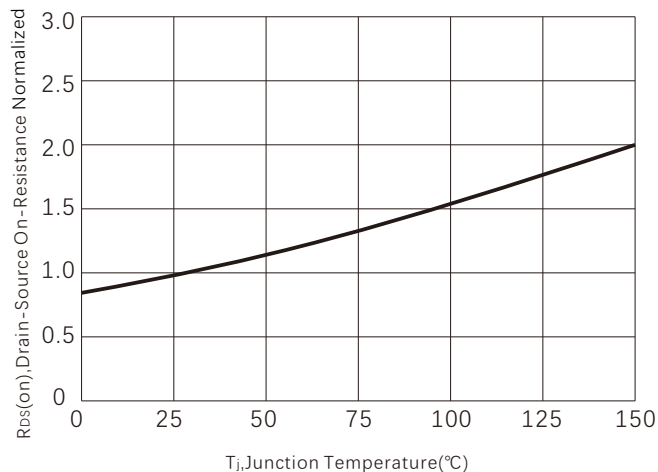


Figure 3. On-Resistance vs. Drain Current

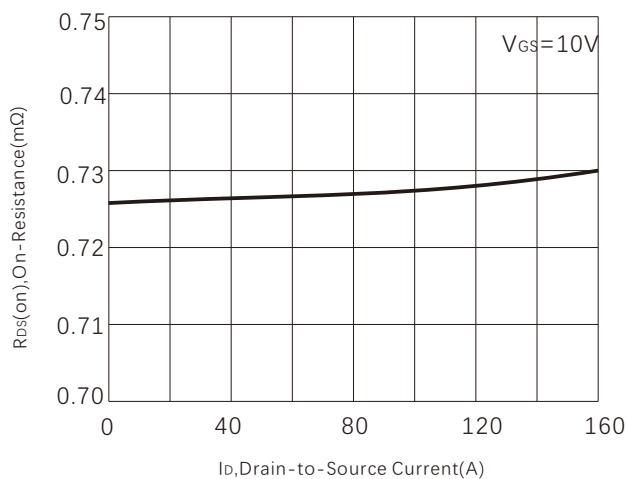
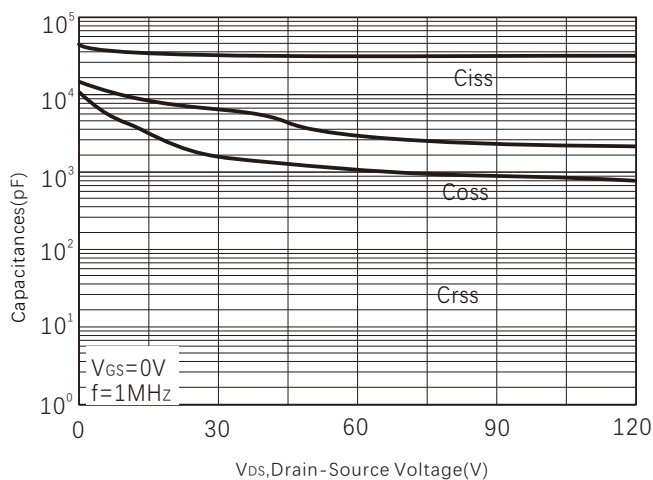


Figure 4. Capacitance



Typical Characteristics Diagrams

Figure 5. Gate charge

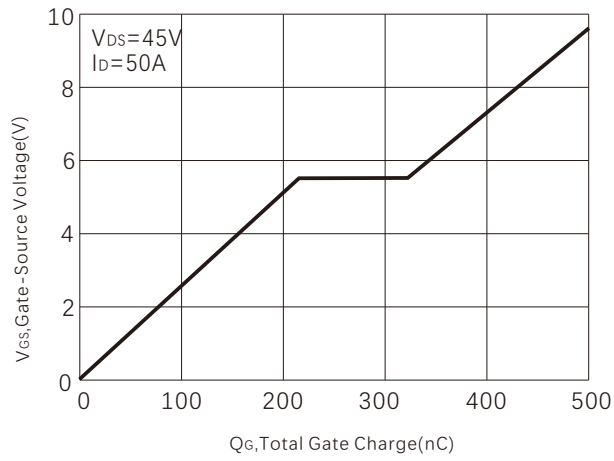


Figure 6. Power dissipation

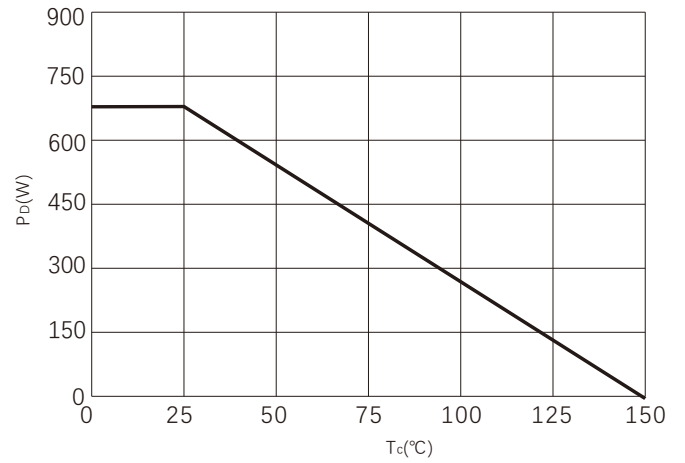
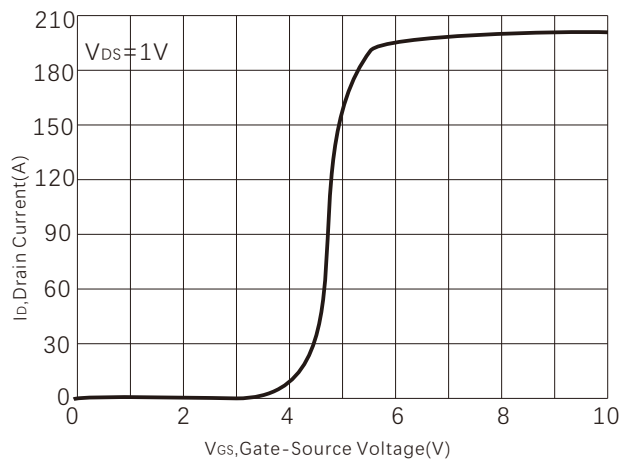
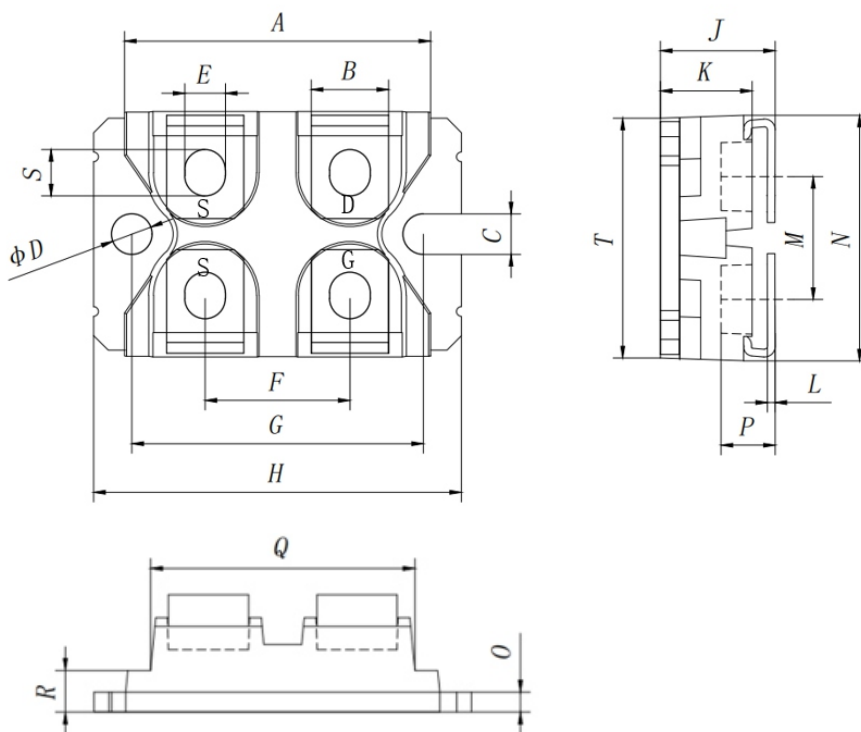


Figure 7. I_D vs V_{GS}



SOT-227 PACKAGE OUTLINE DIMENSIONS



Symbol	MIN	MAX	Symbol	MIN	MAX
A	31.20	32.20	L	0.75	0.85
B	7.50	8.50	M	12.40	13.00
C	3.80	4.60	N	25.00	25.80
D	3.80	4.60	O	1.70	2.30
E	3.80	4.60	P	4.95	6.10
F	14.50	15.50	Q	26.40	27.00
G	29.80	30.60	R	3.90	4.45
H	37.70	38.50	S	4.20	5.40
J	11.50	12.30	T	23.80	25.80
K	8.90	10.00			

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