P-Channel Enhancement Mode MOSFET

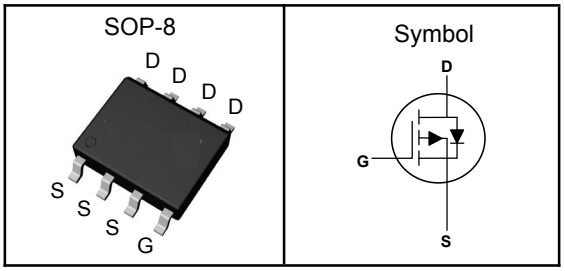
Features

- Advanced Trench technology
- High Speed Power Switching
- Reliable and Rugged
- ROHS Compliant
- 100% Avalanche Tested

Applications

- Power Management in Desktop Computer
- DC/DC Converters

Pin Description



V_{DSS}	-60	V
$R_{DS(ON)-Typ}$	75	mΩ
I_D	-10	A

Absolute Maximum Ratings(T_A=25℃, Unless Otherwise Noted)

Symbol	Parameter		Rating	Unit
V_{DSS}	Drain-Source Voltage		-60	V
V_{GSS}	Gate-Source Voltage		±20	V
T_J	Maximum Junction Temperature		-55 to 150	℃
T_{STG}	Storage Temperature Range		-55 to 150	℃
I_{DM} ①	Pulse Drain Current Tested		-45	A
I_D	Continuous Drain Current	T_C=25°C	-10	A
I_D	Continuous Drain Current	T_C=100°C	-4	A
P_D	Maximum Power Dissipation		35	W

Thermal Characteristics

Symbol	Parameter	Rating	Unit
$R_{\theta JA}$ ③	Thermal Resistance-Junction to Ambient	---	℃/W
$R_{\theta JC}$	Thermal Resistance Junction-Case	4	℃/W

Note ①: Max. current is limited by bonding wire.

Note ②: UIS tested and pulse width are limited by maximum junction temperature 150℃.

Note ③: Surface Mounted on 1in² FR-4 board with 1oz.

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Electrical Characteristics (T_J=25℃, Unless Otherwise Noted)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Static Electrical Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=-250uA	-60	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-60V, V_{GS}=0V	---	---	-1	uA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=-250uA	-1.2	---	-2.5	V
I_{GSS}	Gate Leakage Current	V_{GS}=±20V, V_{DS}=0V	---	---	±100	nA
$R_{DS(ON)}$	Drain-Source On-state Resistance	V_{GS}=-10V, I_D=-6A	---	75	90	mΩ
		V_{GS}=-4.5V, I_D=-10A	---	90	115	mΩ
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	15	---	Ω
Dynamic Characteristics⑤						
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS}=-30V, Freq.=1MHz	---	1021	---	pF
C_{oss}	Output Capacitance		---	64	---	
C_{rss}	Reverse Transfer Capacitance		---	53	---	
$T_{d(on)}$	Turn-on Delay Time	V_{DD}=-30V , V_{GS}=-10V , R_G=3.3Ω, I_D=-1A	---	8.8	---	nS
T_r	Turn-on Rise Time		---	12	---	
$T_{d(off)}$	Turn-off Delay Time		---	25	---	
T_f	Turn-off Fall Time		---	18	---	
Q_g	Total Gate Charge	V_{DS}=-30V , V_{GS}=-10V , I_D=-10A	---	16	---	nC
Q_{gs}	Gate-Source Charge		---	1.9	---	
Q_{gd}	Gate-Drain Charge		---	5	---	
Source-Drain Characteristics （T_J=25℃）						
V_{SD}④	Diode Forward Voltage	V_{GS}=0V , I_S=-2A , T_J=25℃	---	---	-1.2	V

Note ④： Pulse test (pulse width≤300us, duty cycle≤2%).

Note ⑤：Guaranteed by design, not subject to production testing.

Typical Characteristics

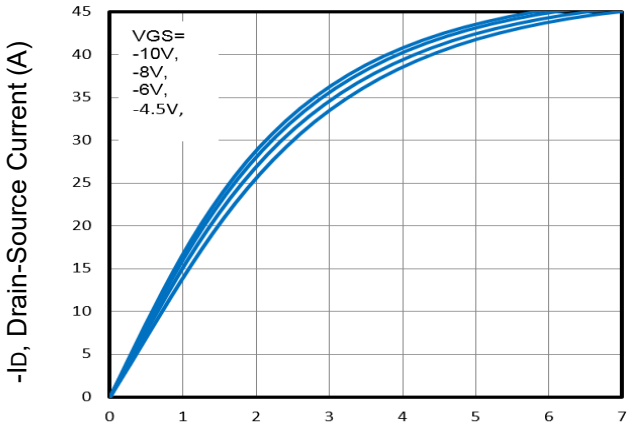

Fig1. Typical Output Characteristics

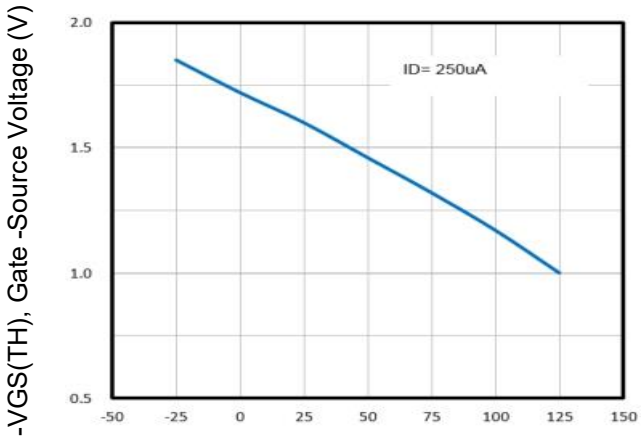

Fig2. Normalized Threshold Voltage Vs. Temperature

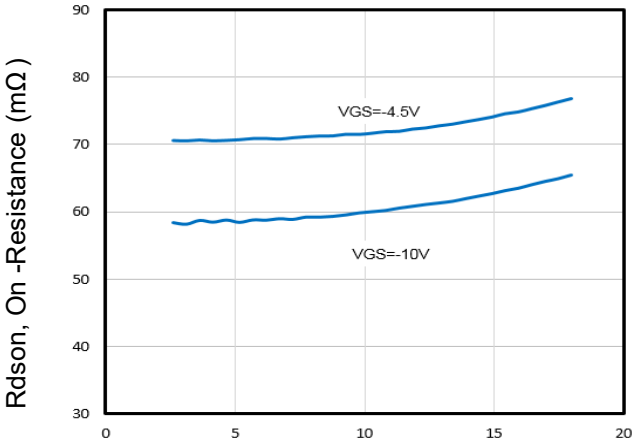

Fig3. On-Resistance vs. Drain Current and Gate

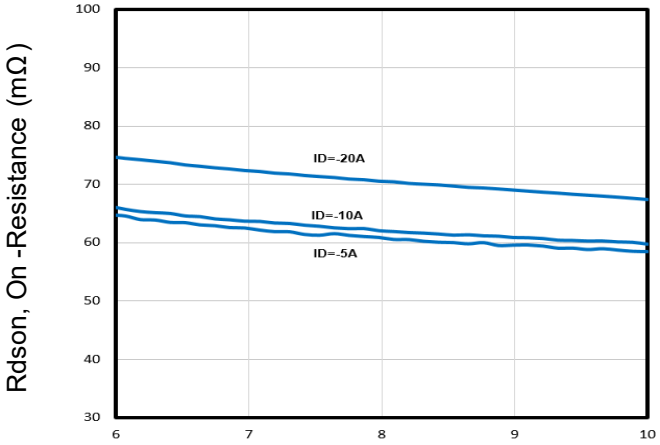

Fig4. On-Resistance vs. Gate Source Voltage

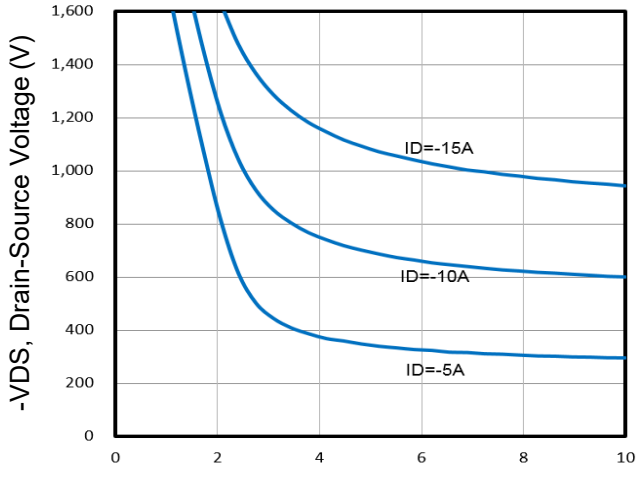

Fig5. Drain-Source Voltage vs Gate-Source Voltage

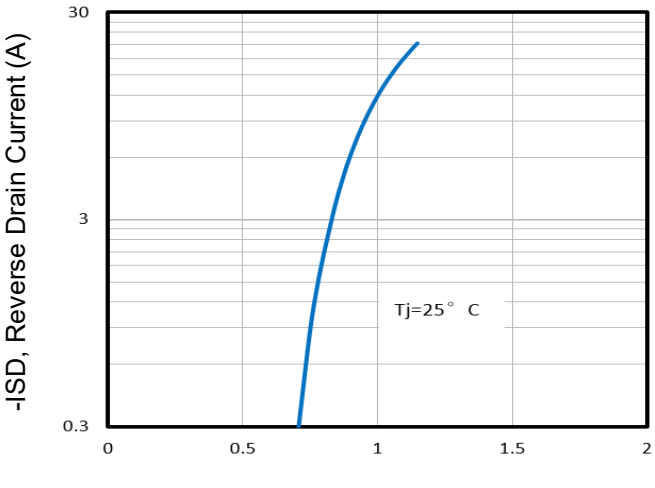

Fig6. Typical Source-Drain Diode Forward Voltage

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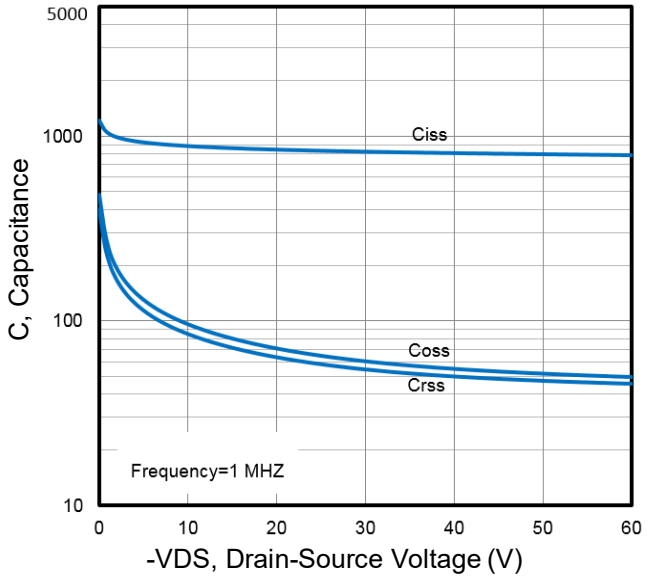


Fig7. Typical Capacitance Vs. Drain-Source Voltage

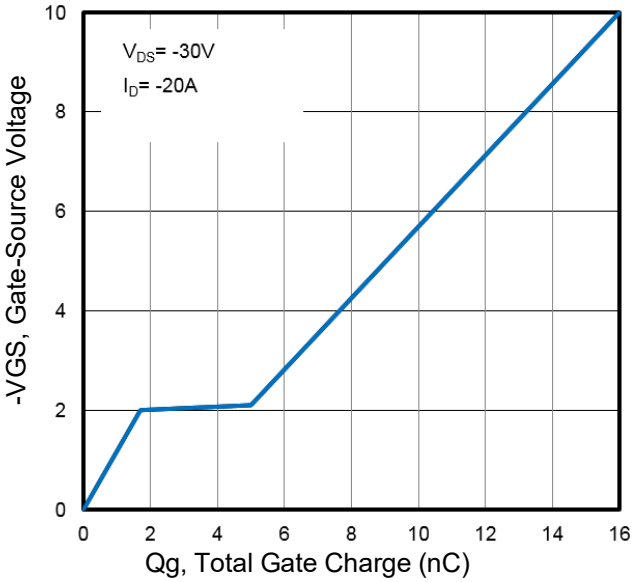
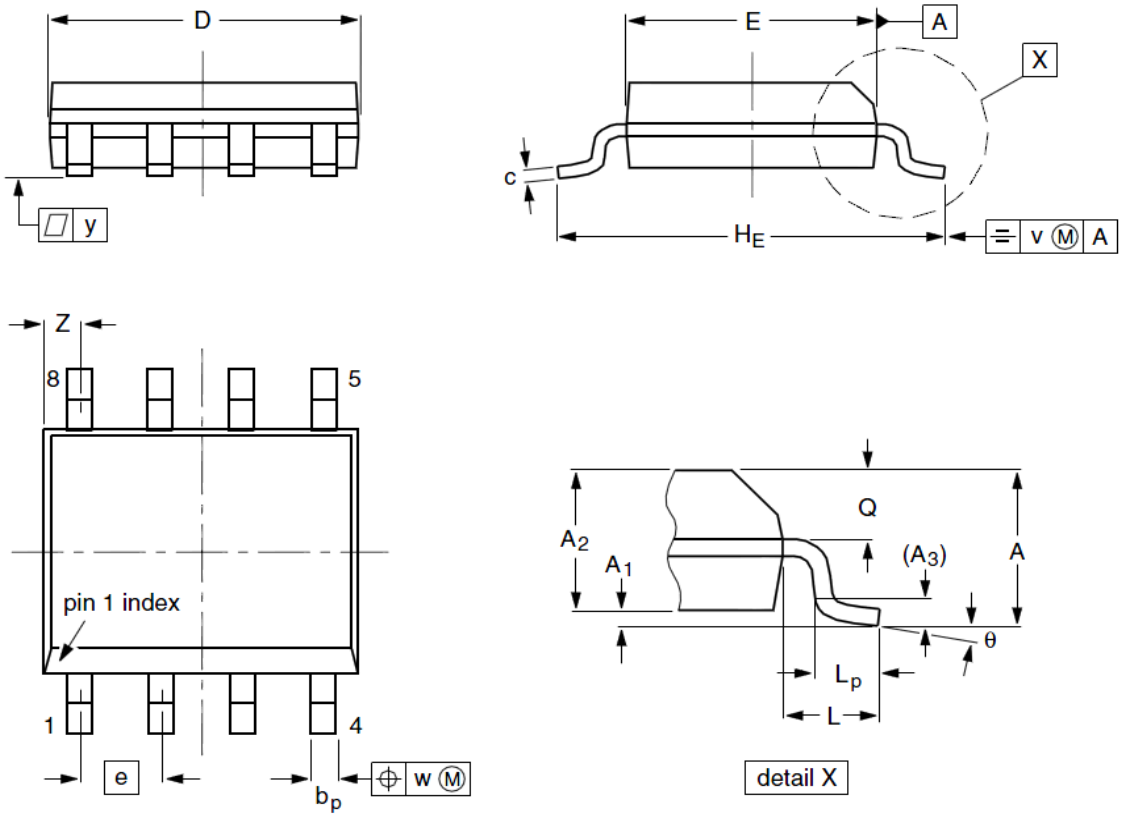


Fig8. Typical Gate Charge Vs. Gate-Source Voltage

SOP-8 Package Outline Dimensions



Symbol	Dimensions (unit:mm)			Symbol	Dimensions (unit:mm)		
	Min	Typ	Max		Min	Typ	Max
A	1.35	1.55	1.75	**A_1**	0.10	0.18	0.25
A_2	1.25	1.45	1.65	**A_3**	--	0.25	--
b_p	0.36	0.42	0.51	**c**	0.19	0.22	0.25
D	4.70	4.92	5.10	**E**	3.80	3.90	4.00
e	--	1.27	--	**H_E**	5.80	6.00	6.20
L	--	1.05	--	**L_P**	0.40	0.68	1.00
Q	0.60	0.65	0.73	**v**	--	0.25	--
w	--	0.25	--	**y**	--	0.10	--
Z	0.30	0.50	0.70	**θ**	0°		8°

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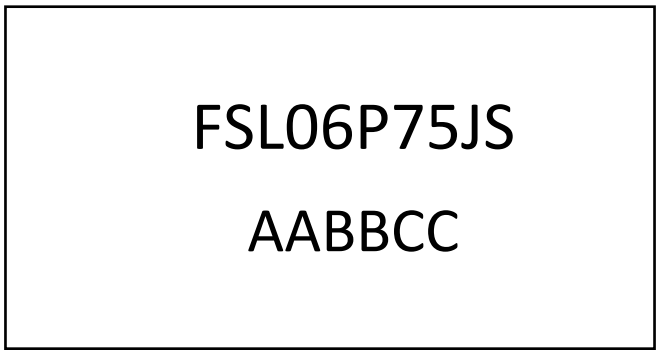

第一行标记为物料型号代码

第二行为AA为内部识别码，BB为表示年份，例如22即表示2022年，CC表示周期，例如01即表示第一周;2201即表示2022年第一周生产。