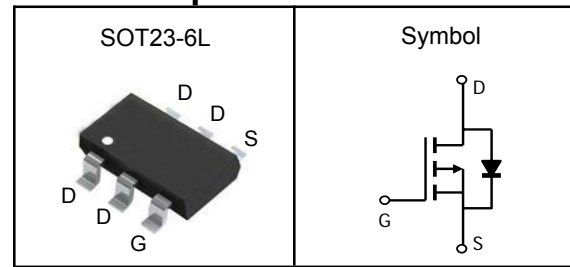


P-Channel Enhancement Mode MOSFET
Features

- Low R_{dson} for low conduction loss
- Reliable and Rugged
- ROHS Compliant & Halogen-Free

Applications

- Power Management in Desktop Computer
- DC/DC Converters

Pin Description


V _{bss}	-150	V
R _{ds(ON)-Typ}	770	mΩ
I _d	-1	A

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

Symbol	Parameter	P-Channel	Unit
V _{bss}	Drain-Source Voltage	-150	V
V _{GSS}	Gate-Source Voltage	±25	V
T _J	Maximum Junction Temperature	-55 to 150	°C
T _{STG}	Storage Temperature Range	-55 to 150	°C
I _{DM} ^①	Pulse Drain Current Tested	-4	A
I _d	Continuous Drain Current	-1	A
P _D	Maximum Power Dissipation	2.0	W

Thermal Characteristics

Symbol	Parameter	Rating	Unit
R _{θJA} ^③	Thermal Resistance-Junction to Ambient	62.5	°C/W

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

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

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



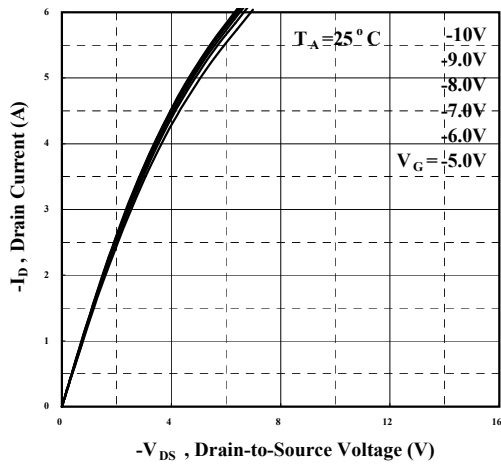
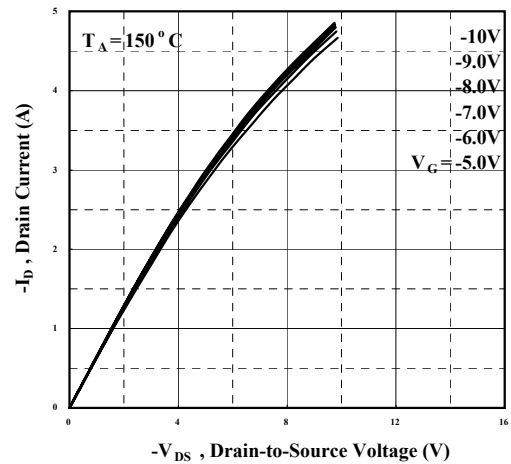
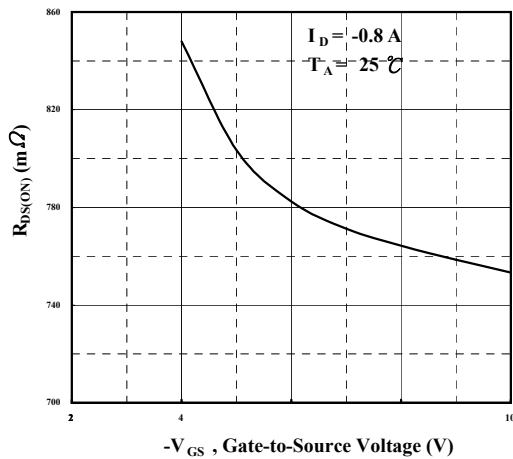
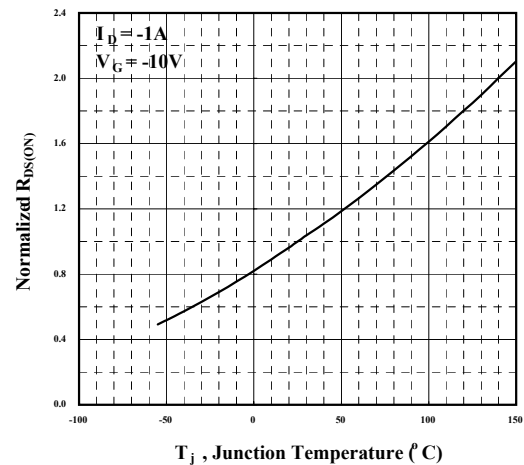
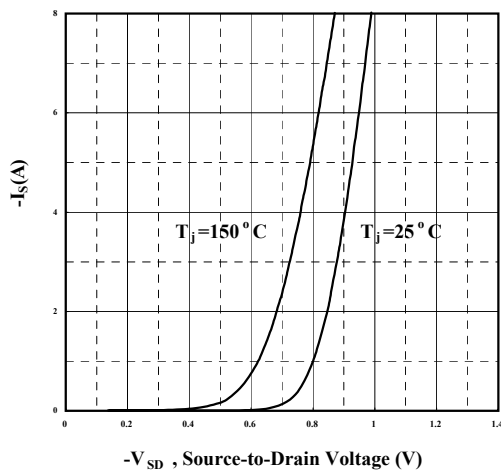
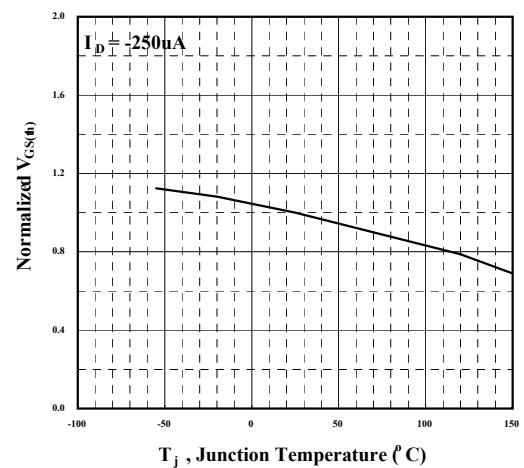
P-Channel Enhancement Mode MOSFET

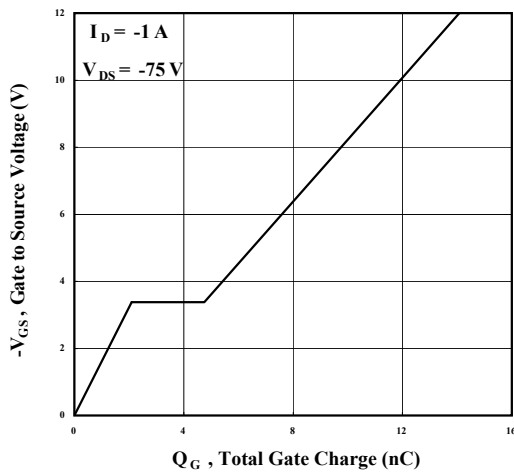
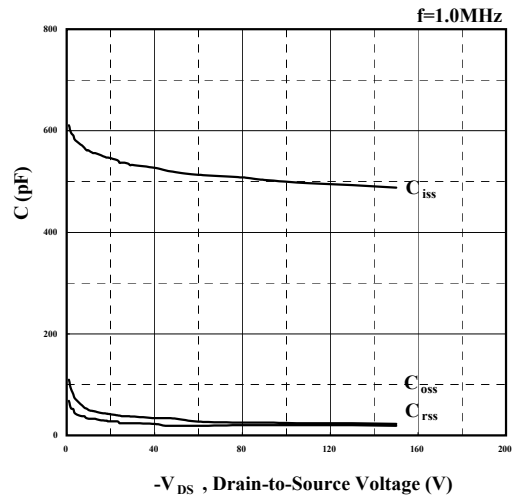
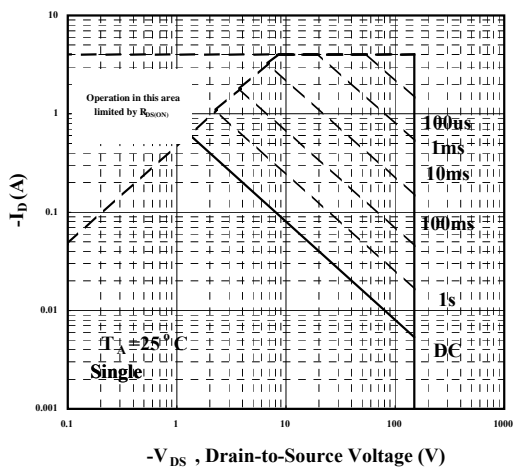
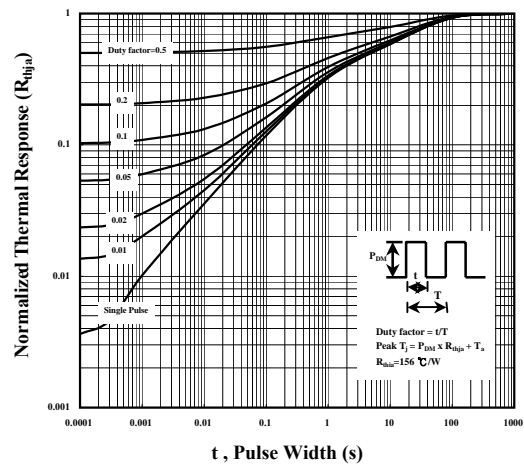
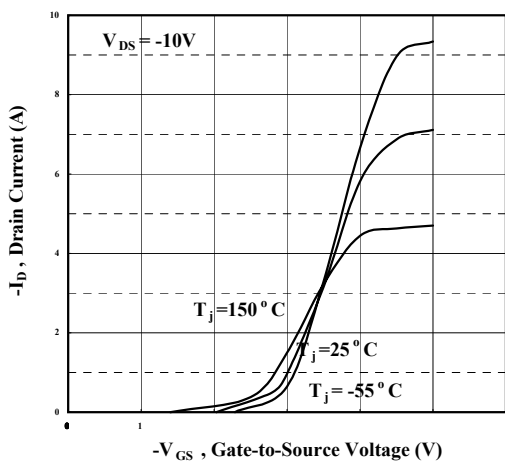
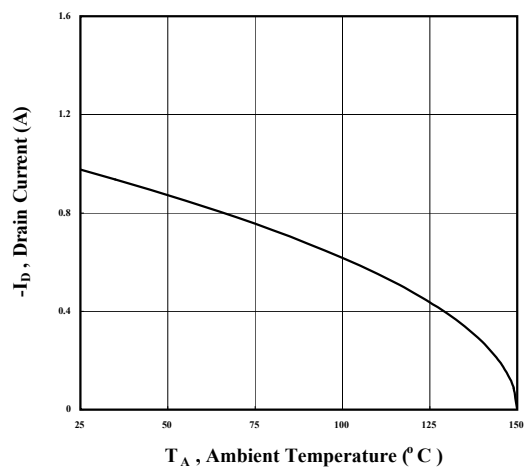
Electrical Characteristics ($T_J=25^{\circ}\text{C}$, Unless Otherwise Noted)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Static Electrical Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-150	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-120V, V_{GS}=0V$	---	---	-1	μA
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.2	---	-4.0	V
I_{GSS}	Gate Leakage Current	$V_{GS}=\pm 25V, V_{DS}=0V$	---	---	± 100	nA
$R_{DS(on)}$	Drain-Source On-state Resistance	$V_{GS}=-10V, I_D=-1A$	---	770	1000	m Ω
		$V_{GS}=-6V, I_D=-0.8A$	---	800	1200	
gfs	Forward Transconductance	$V_{DS}=-10V, I_D=-1A$	---	3.4	---	S
Dynamic Characteristics ^⑤						
C_{iss}	Input Capacitance	$V_{GS}=0V, V_{DS}=-50V, \text{Freq.}=1\text{MHz}$	---	520	---	pF
C_{oss}	Output Capacitance		---	33	---	
C_{rss}	Reverse Transfer Capacitance		---	20	---	
$T_{d(on)}$	Turn-on Delay Time	$V_{DS}=-75V, V_{GS}=-10V, R_G=3.3\Omega, I_D=-1A$	---	9	---	nS
T_r	Turn-on Rise Time		---	5	---	
$T_{d(off)}$	Turn-off Delay Time		---	24	---	
T_f	Turn-off Fall Time		---	8	---	
Q_g	Total Gate Charge	$V_{GS}=-75V, V_{DS}=-10V, I_D=-1A$	---	12	---	nC
Q_{gs}	Gate-Source Charge		---	2.0	---	
Q_{gd}	Gate-Drain Charge		---	2.5	---	
Source-Drain Characteristics						
V_{SD} ^④	Diode Forward Voltage	$V_{GS}=0V, I_S=-1.5A, T_J=25^{\circ}\text{C}$	---	---	-1.3	V
t_{rr}	Reverse Recovery Time	$I_F=-1A, di/dt=100A/\mu s, T_J=25^{\circ}\text{C}$	---	40	---	nS
Q_{rr}	Reverse Recovery Charge		---	70	---	nC

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

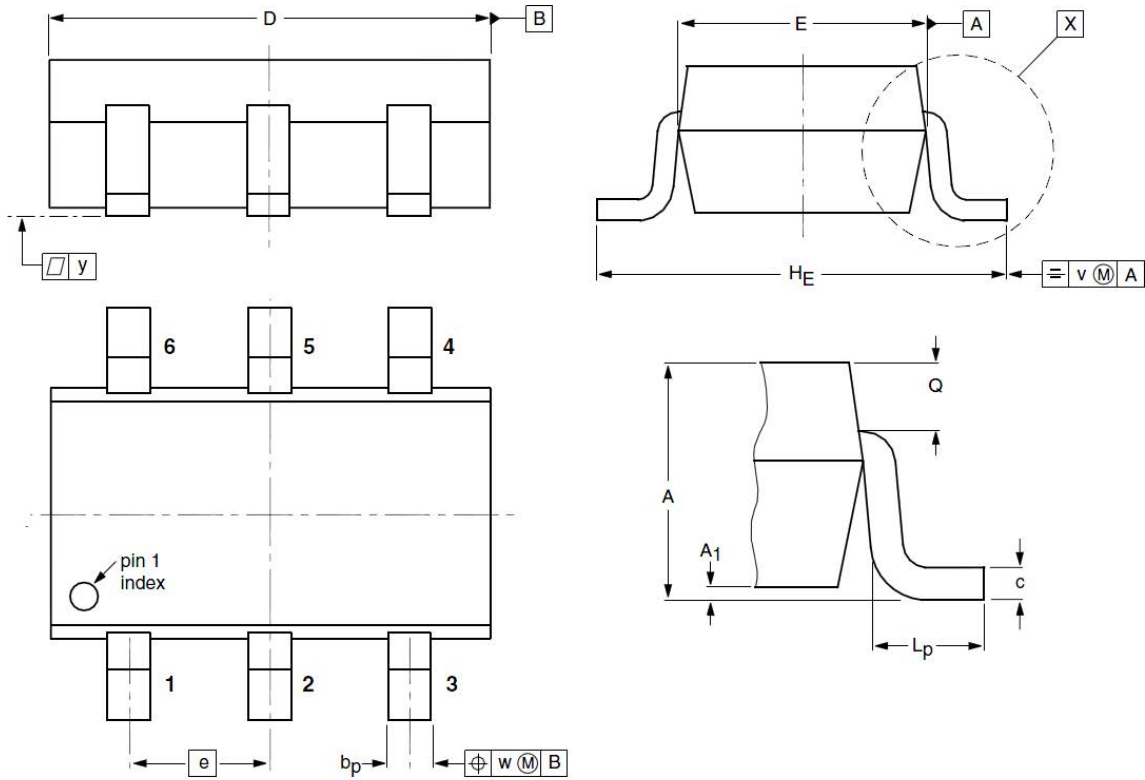
Note ⑤: Guaranteed by design, not subject to production testing.

P-Channel Enhancement Mode MOSFET
Typical Characteristics

Fig 1. Typical Output Characteristics

Fig 2. Typical Output Characteristics

Fig 3. On-Resistance v.s. Gate Voltage

Fig 4. Normalized On-Resistance v.s. Junction Temperature

Fig 5. Forward Characteristic of Reverse Diode

Fig 6. Gate Threshold Voltage v.s. Junction Temperature

P-Channel Enhancement Mode MOSFET

Fig 7. Gate Charge Characteristics

Fig 8. Typical Capacitance Characteristics

Fig 9. Maximum Safe Operating Area

Fig 10. Effective Transient Thermal Impedance

Fig 11. Transfer Characteristics

Fig 12. Drain Current v.s. Ambient Temperature

P-Channel Enhancement Mode MOSFET

GCH&!* @ DUW_Uj Y'Ci h]bY'8]a Ybg]cbg



Gna Vc`	8]a Ybg]cbg (unit:mm)			Gna Vc`	8]a Ybg]cbg (unit:mm)		
	A]b	Hnd	A U		A]b	Hnd	A U
5	0.90	1.07	1.45	5%	0.01	0.05	0.15
Vd	0.30	0.40	0.50	W	0.10	0.15	0.22
'8`	2.70	2.92	3.10	9	1.35	1.55	1.75
Y	--	0.95	--	<9	2.50	2.80	3.00
@	0.30	0.45	0.60	E	0.23	0.29	0.33
j	--	0.20	--	K	--	0.20	--
m	--	0.10	--				