



N-Channel Enhancement Mode MOSFET

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

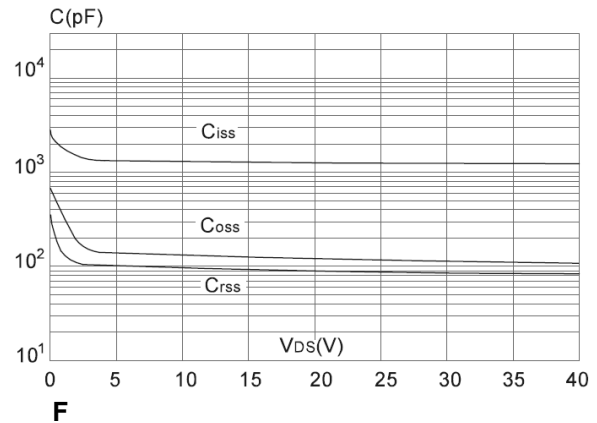
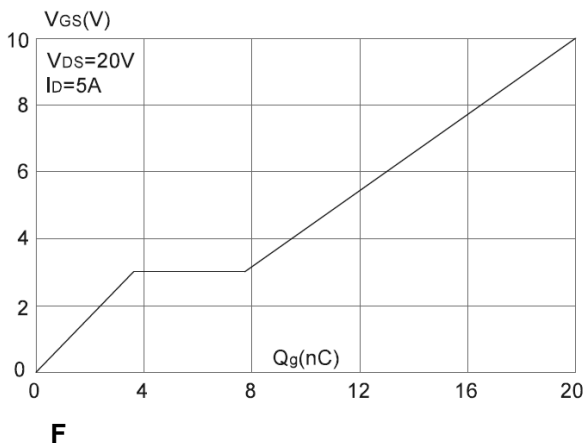
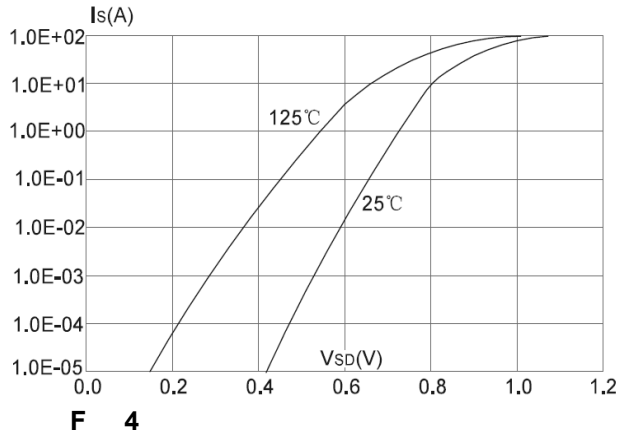
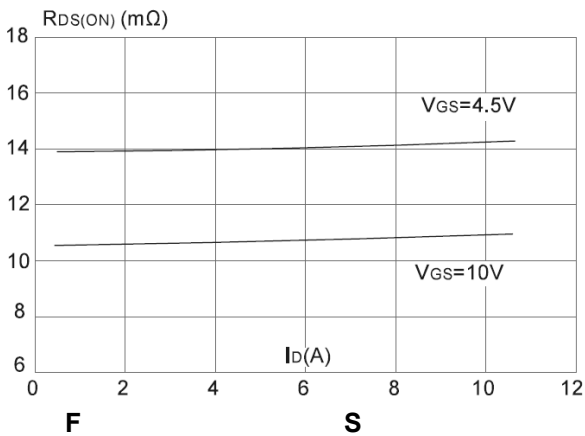
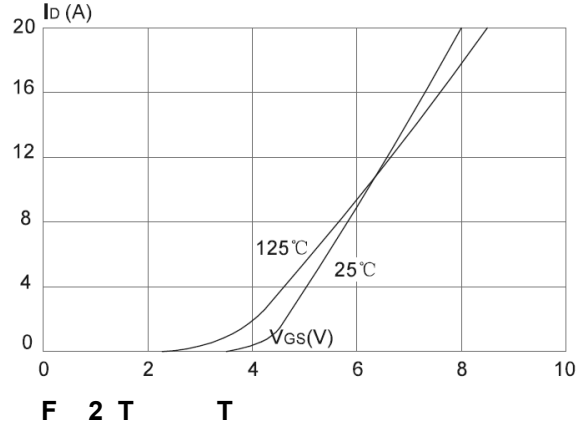
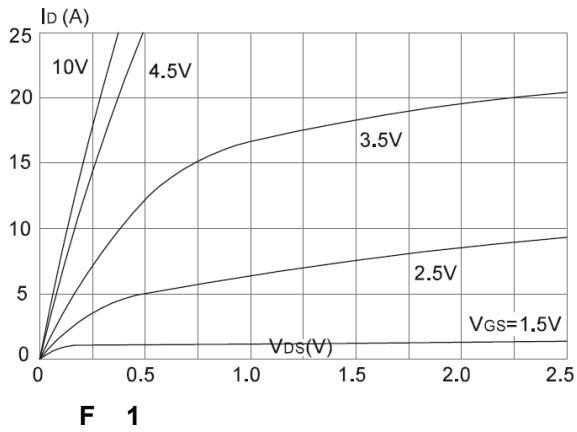
Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Static Electrical Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	40	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=40V, V_{GS}=0V$	---	---	1	μA
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1.1	---	2.2	V
I_{GSS}	Gate Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	± 100	nA
$R_{DS(on)}$	Drain-Source On-state Resistance	$V_{GS}=10V, I_D=8A$	---	11	13.8	m Ω
		$V_{GS}=4.5V, I_D=5A$	---	15.2	20	
Dynamic Characteristics^⑤						
C_{iss}	Input Capacitance	$V_{GS}=0V,$ $V_{DS}=20V,$ Freq.=1MHz	---	750	---	pF
C_{oss}	Output Capacitance		---	55	---	
C_{rss}	Reverse Transfer Capacitance		---	48	---	
$T_{d(on)}$	Turn-on Delay Time	$V_{DS}=20V$ $V_{GS}=10V$ 3Ω Ω	---	14	---	nS
T_r	Turn-on Rise Time		---	2	---	
$T_{d(off)}$	Turn-off Delay Time		---	18	---	
T_f	Turn-off Fall Time		---	4	---	
Q_g	Total Gate Charge	$V_{DS}=20V, V_{GS}=10V$, $I_D=5A$	---	17	---	nC
Q_{gs}	Gate-Source Charge		---	1.7	---	
Q_{gd}	Gate-Drain Charge		---	2.5	---	
Source-Drain Characteristics						
$V_{SD}^{④}$	Diode Forward Voltage	$V_{GS}=0V, I_S=8A, T_J=25^{\circ}\text{C}$	---	---	1.2	V
t_{rr}	Reverse Recovery Time	$I_F=8A,$ $di/dt=100A/\mu s, T_J=25^{\circ}\text{C}$	---	20	---	nS
Q_{rr}	Reverse Recovery Charge		---	10	---	nC

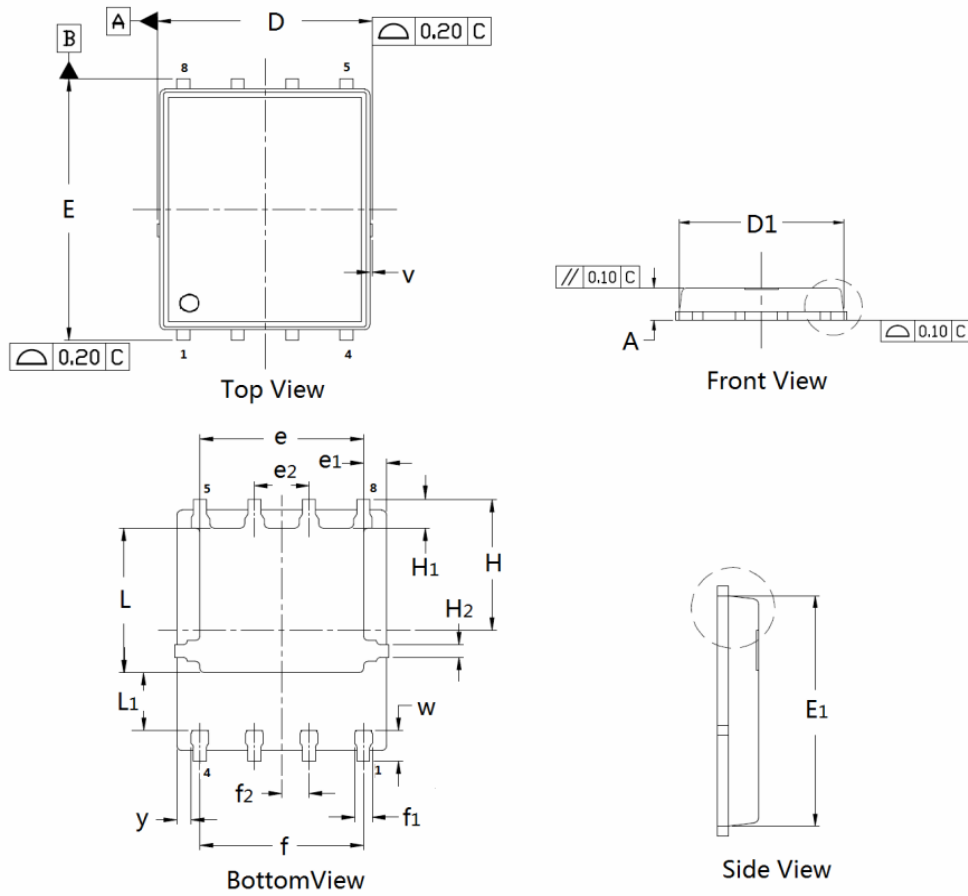
Note ④: Pulse test (pulse width 300us, duty cycle 2%).

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

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Typical Characteristics



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DFN5×6 Package Outline Data

DIMENSIONS (unit : mm)

Symbol		Typ	Max	Symbol	Min	Typ	Max
A	0.90	1.02	1.10	D	4.90	4.98	5.10
D ₁	4.80	4.89	5.10	E	5.90	6.11	6.25
E ₁	5.65	5.74	5.95	e	3.72	3.80	3.92
e ₁	--	0.5	--	e ₂	--	1.	--
f	--	3.8	--	f ₁	0.31	0.37	0.51
f ₂	--	0.6	--	H	--	3.	--
H ₁	0.59	0.63	0.79	H ₂	0.26	0.28	0.32
L	3.35	3.45	3.65	L ₁	--	1.	--
v	--	0.1	--	w	0.64	0.68	0.84
y	--	0.3	--		--		--