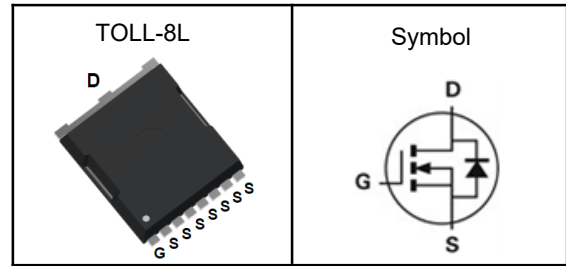


N-Channel Enhancement Mode MOSFET
Features

- Low $R_{ds(on)}$ for low conduction loss
- Reliable and Rugged
- ROHS Compliant & Halogen-Free

Applications

- Power Management in Desktop Computer
- DC/DC Converters

Pin Description


V_{DSS}	100	V
$R_{DS(ON)-Typ}$	1.7	m Ω
I_D	280	A

Absolute Maximum Ratings($T_C=25^\circ\text{C}$, unless otherwise noted)

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ¹	I_D	280	A
Continuous Drain Current ¹	I_D	181	A
$T_C=100^\circ\text{C}$			
Pulsed Drain Current ²	I_{DM}	980	A
Single Pulse Avalanche Energy ³	E_{AS}	590	mJ
Total Power Dissipation ⁴	P_D	205	W
Storage Temperature Range	T_{STG}	-55 to 175	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-55 to 175	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Typ	Max	Unit
Thermal Resistance Junction-Ambient ¹	$R_{\theta JA}$	---	62.5	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction-Case ¹	$R_{\theta JC}$	---	0.3	$^\circ\text{C}/\text{W}$

**N-Channel Enhancement Mode MOSFET****Electrical Characteristics (T_J=25°C, unless otherwise noted)**

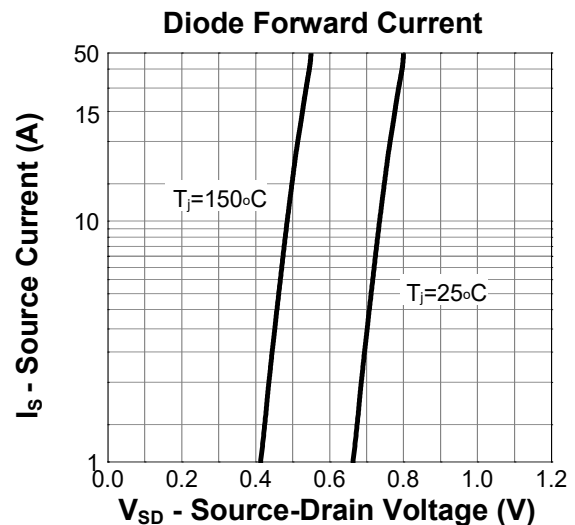
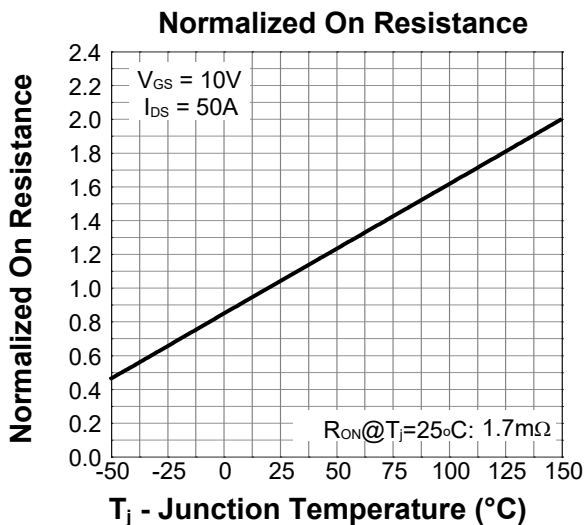
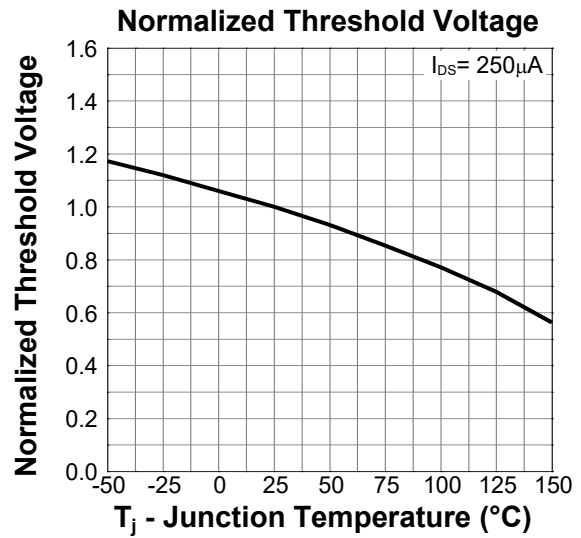
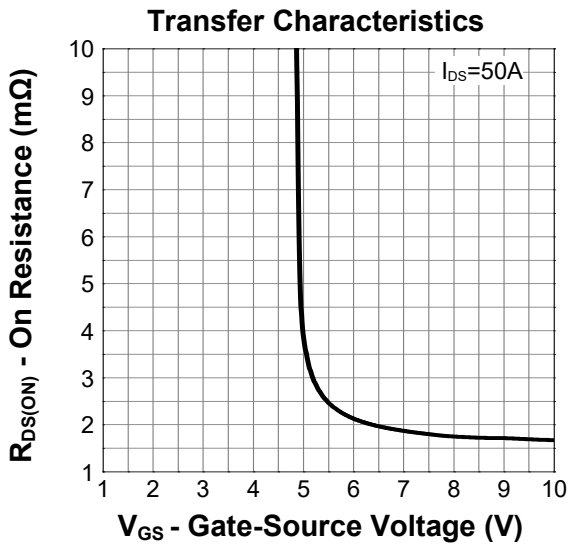
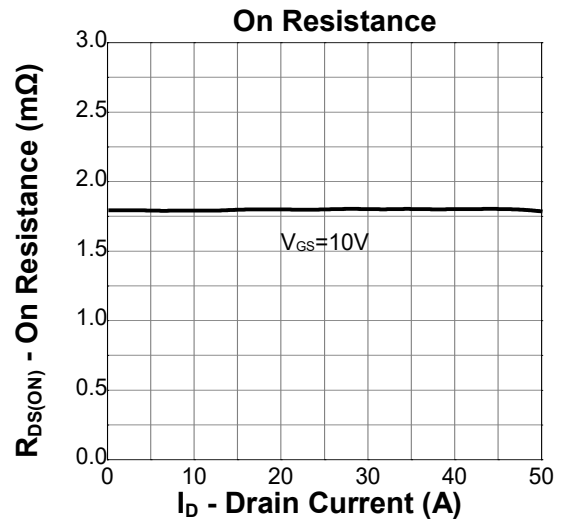
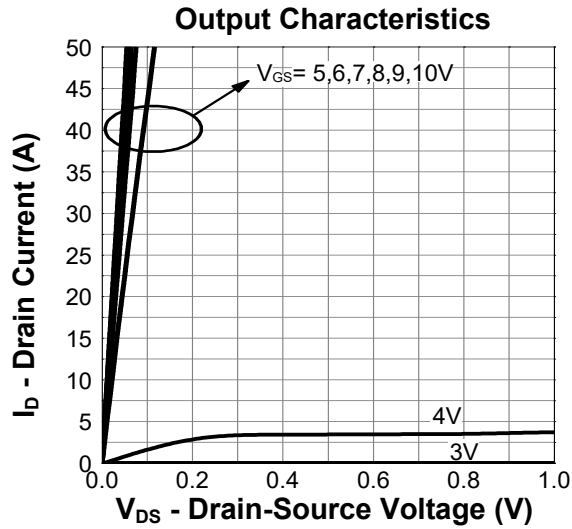
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	100	---	---	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =50A	---	1.7	2.0	mΩ
Gate Threshold Voltage	V _{GS(th)}	V _{GS} =V _{DS} , I _D =250uA	2	---	4	V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =80V, V _{GS} =0V	---	---	1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	---	---	±100	nA
Total Gate Charge	Q _g	V _{DS} =50V, V _{GS} =10V, I _D =50A	---	243	---	nC
Gate-Source Charge	Q _{gs}		---	75	---	
Gate-Drain Charge	Q _{gd}		---	67	---	
Turn-On Delay Time	T _{d(on)}	V _{DS} =50V, V _{GS} =10V, R _G =3.9Ω, I _D =50A	---	42	---	ns
Rise Time	T _r		---	155	---	
Turn-Off Delay Time	T _{d(off)}		---	150	---	
Fall Time	T _f		---	145	---	
Input Capacitance	C _{iss}	V _{DS} =50V, V _{GS} =0V, f=1MHz	---	13400	---	pF
Output Capacitance	C _{oss}		---	2000	---	
Reverse Transfer Capacitance	C _{rss}		---	135	---	

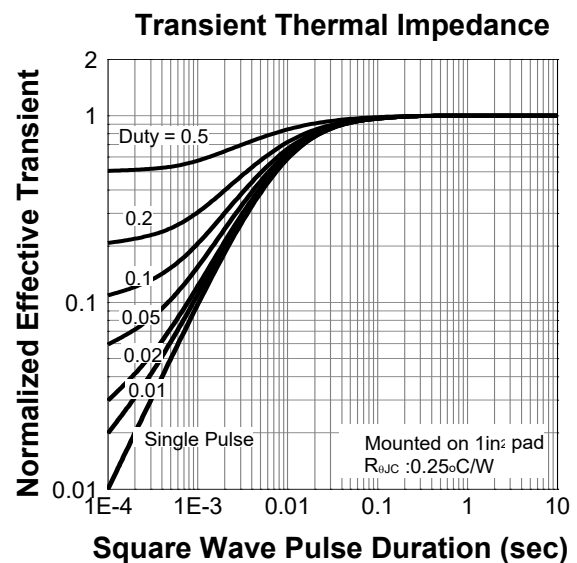
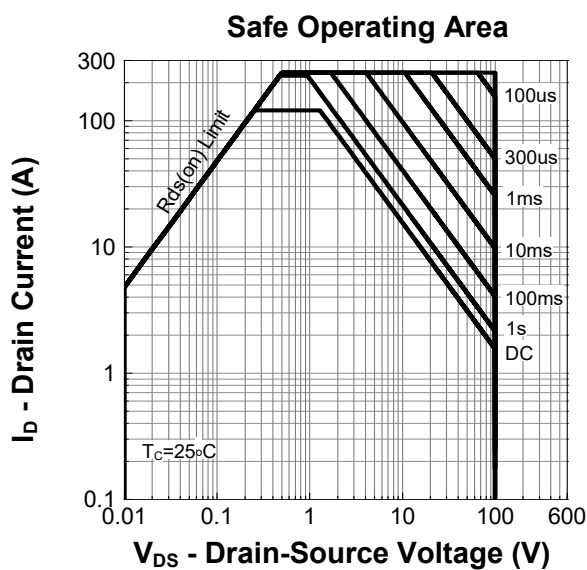
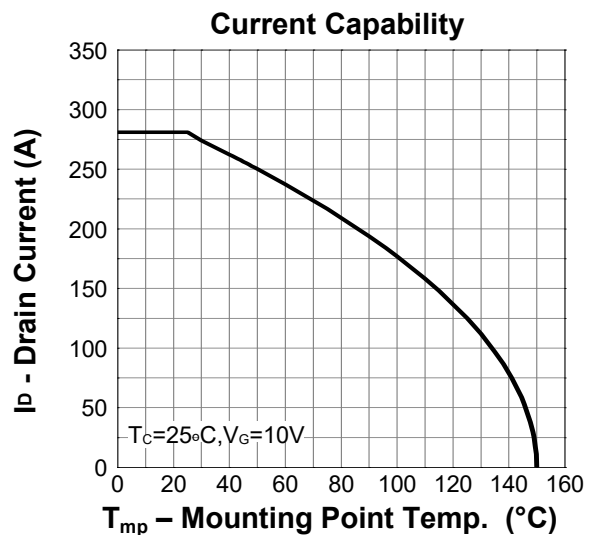
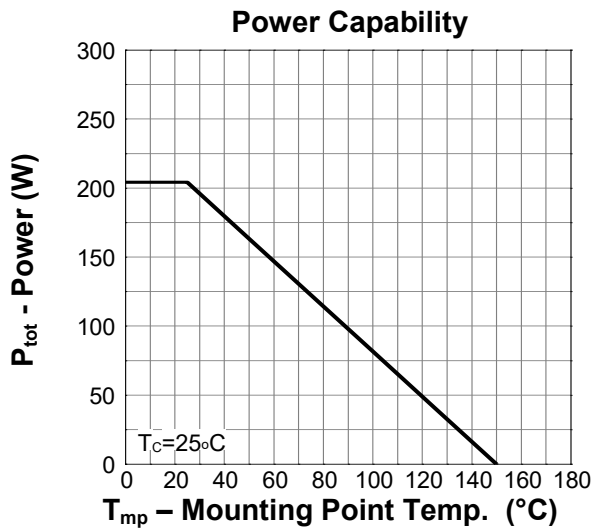
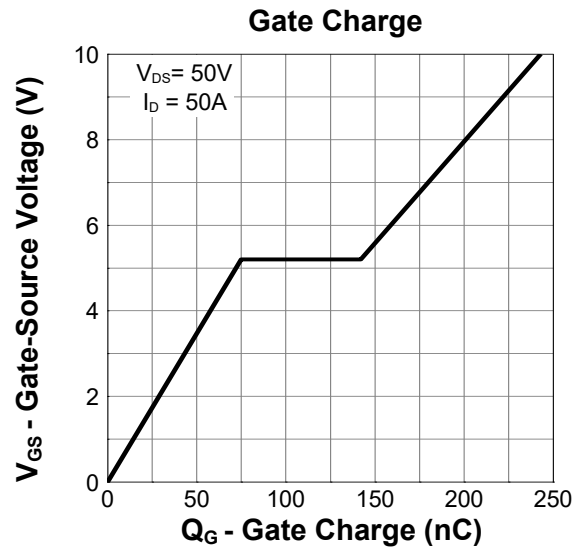
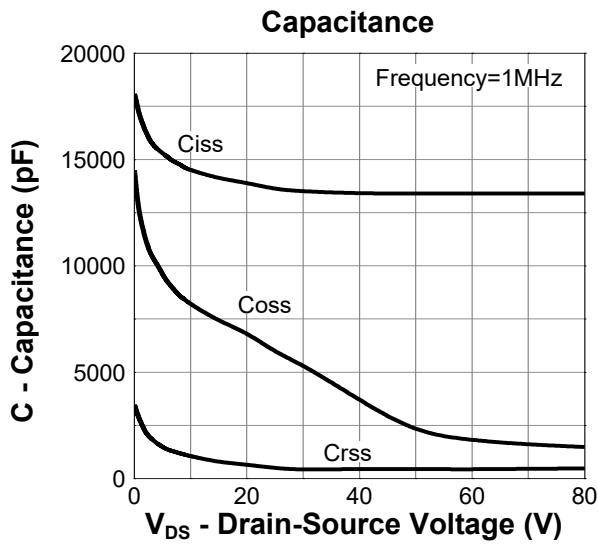
Drain-Source Diode Characteristics

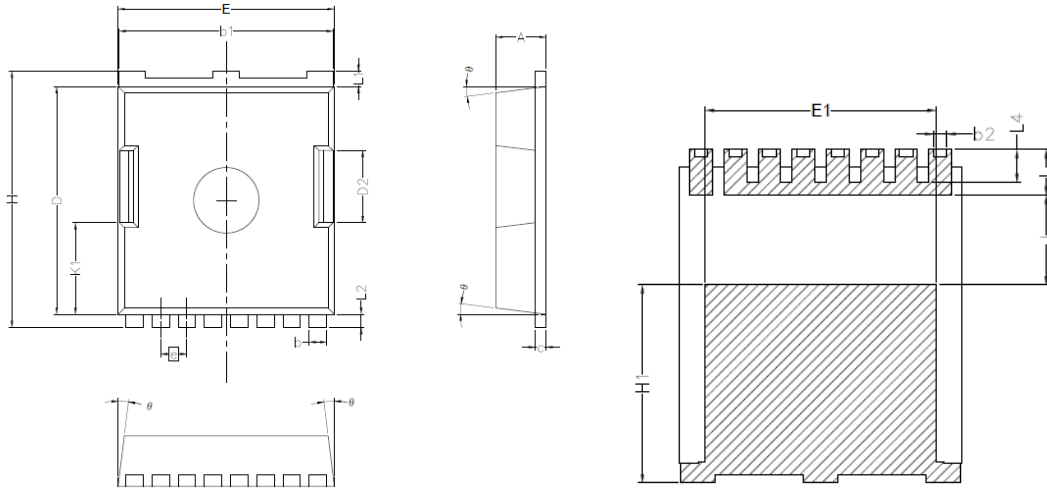
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Continuous Source Current ¹	I _S		---	---	280	A
Diode Forward Voltage ²	V _{SD}	V _{GS} =0V, I _S =50A, T _J =25°C	---	---	1.3	V

Note:

- 1.The data tested by surface mounted on a 1 inch²FR-4 board with 2OZ copper.
- 2.The data tested by pulsed, pulse width ≤ 300us, duty cycle ≤ 2%
- 3.The EAS data shows Max. rating. The test condition is V_{DD}=100V, R_G=25Ω, L=0.1mH

N-Channel Enhancement Mode MOSFET
Typical Characteristics


N-Channel Enhancement Mode MOSFET


N-Channel Enhancement Mode MOSFET
TOLL-8L Package Outline Data


Symbol	Dimensions In Millimeters	
	MIN.	MAX.
A	2.20	2.40
b	0.70	0.90
b1	9.70	9.90
b2	0.42	0.50
c	0.40	0.60
D	10.28	10.58
D2	3.10	3.60
E	9.70	10.10
E1	7.90	8.30
e	1.20BSC	
H	11.48	11.88
H1	6.75	7.15
N	8	
J	3.00	3.30
K1	3.98	4.38
L	1.40	1.80
L1	0.60	0.80
L2	0.50	0.70
L4	1.00	1.30
θ	4°	10°