

/ Descriptions

TOLL-8L N

N-Channel MOSFET in a TOLL-8L Plastic Package .

/ Features

$V_{DS}(V)=100V$ $I_D=250A$

$R_{DS(ON)}@10V \leq 1.4m\Omega$ (Typ.1.2m Ω)

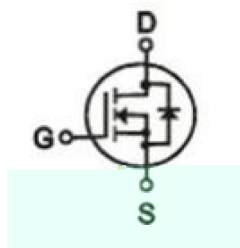
HF Product.

/ Applications

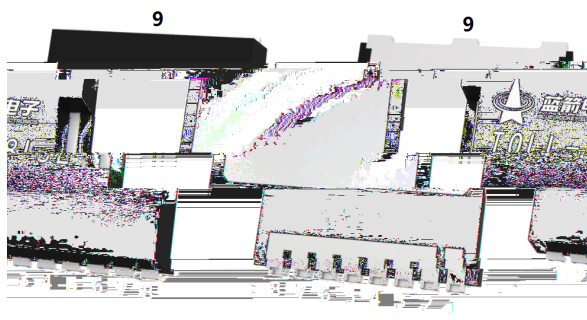
DC/DC

DC/DC converter,Power switch,Motor drives.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN2 3 4 5 6 7 8 S PIN9 D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_C=25^\circ\text{C}$)

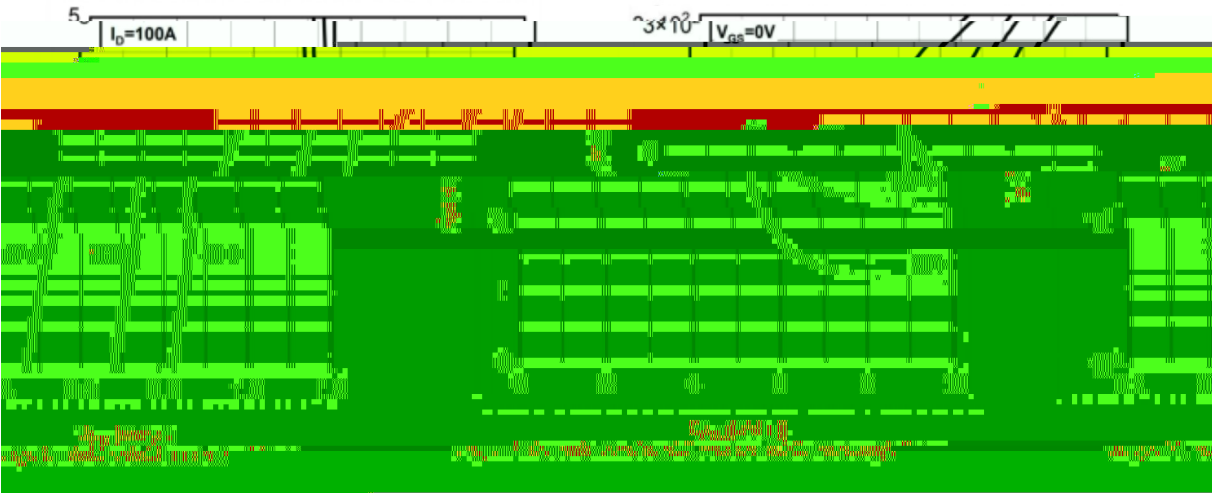
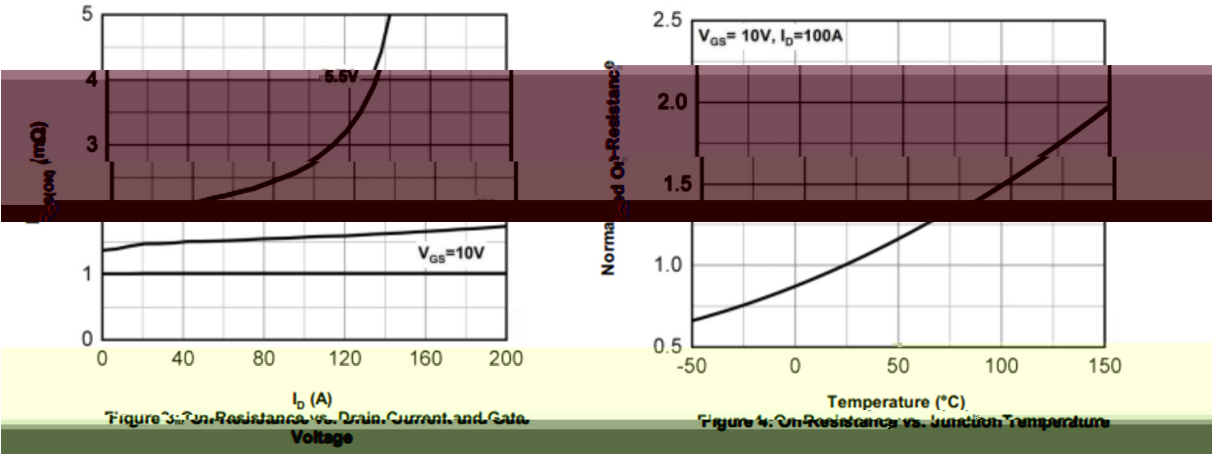
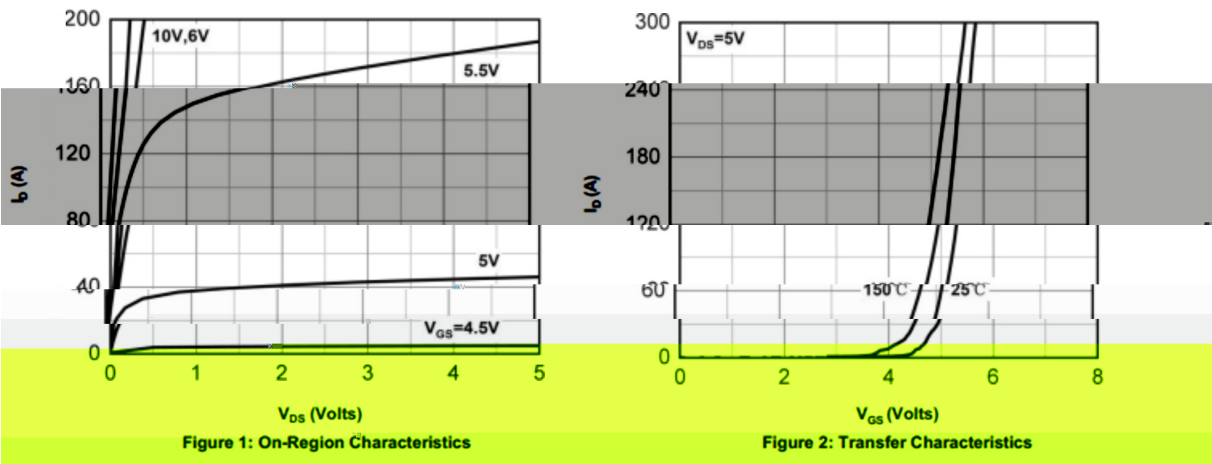
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Drain Current - Continuous		I_D	250	A
Drain Current - Continuous		$I_D(T_C=100^\circ\text{C})$	212	A
Drain Current – Pulsed		I_{DM}	1000	A
Gate-Source Voltage		V_{GS}	20	V
Power Dissipation		P_{tot}	313	W
Single Pulse Avalanche Energy($V_{DS}=50\text{V}, V_{GS}=10\text{V}, L=0.3\text{mH}$)		E_{AS}	626	mJ
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - ambient	Steady-State	$R_{\theta JA}$	40	/ W
Thermal resistance, junction - case	Steady-State	$R_{\theta JC}$	0.4	

/ Electrical Characteristics($T_C=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	100			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100\text{V}, V_{GS}=0\text{V}$			1	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	2.5	3.3	4.1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=100\text{A}$		1.2	1.4	m Ω
Diode Forward Voltage	V_{SD}	$I_S=100\text{A}, V_{GS}=0\text{V}$		0.9	1.2	V
Reverse recovery time	t_{rr}	$V_{DS}=50\text{V}, I_F=50\text{A}$ $di/dt=100\text{A}/\mu\text{s}$		92		ns
Reverse recovery charge	Q_{rr}			236		nC
Gate Resistance	R_g	$f=1\text{MHz}$		1.7		Ω
Input Capacitance	C_{iss}	$V_{DS}=50\text{V}, V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		12000		pF
Output Capacitance	C_{oss}			3000		
Reverse Transfer Capacitance	C_{rss}			128		
Total Gate Charge	Q_g	$V_{GS}=10\text{V}, I_D=100\text{A}$ $V_{DS}=50\text{V}$		230		nC
Gate Source Charge	Q_{gs}			67		
Gate Drain Charge	Q_{gd}			80		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $R_G=4.7\Omega$		55		
		$V_{DS}=50V$ $I_D=100A$				

/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

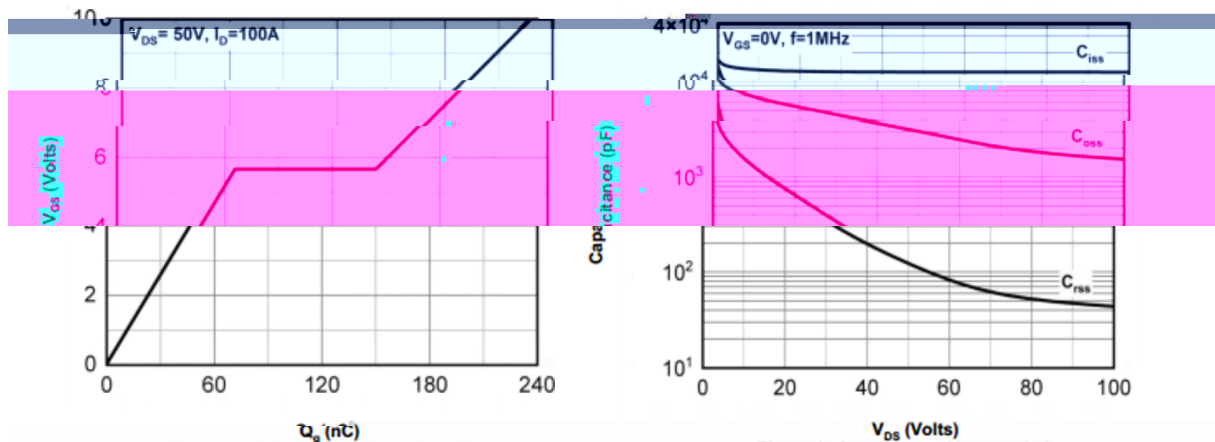


Figure 7: Gate Charge Characteristics

Figure 8: Capacitance Characteristics

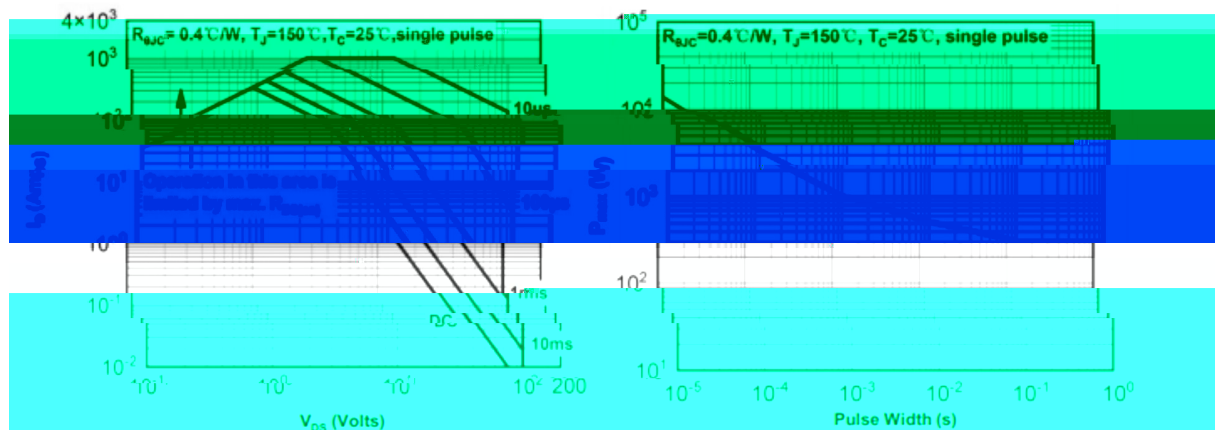
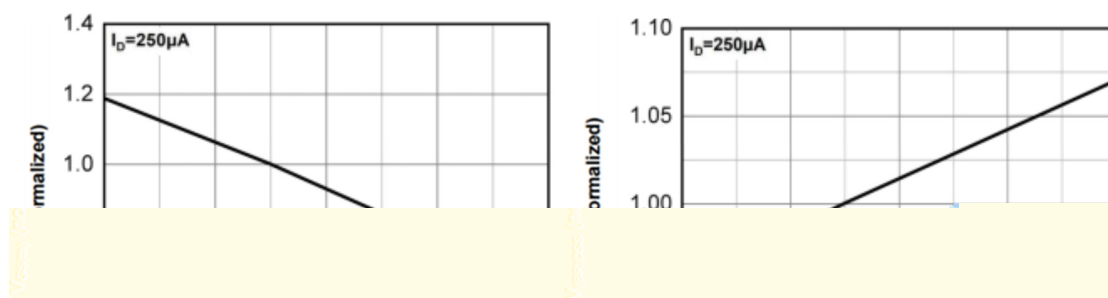


Figure 9: Maximum Forward Transconductance

Figure 10: Single Pulse Power Dissipation

Figure 11: Normalized $V_{GS}(II)$ vs. Junction TemperatureFigure 12: Normalized $V(BR)DSS$ vs. Junction Temperature

/ Electrical Characteristic Curve

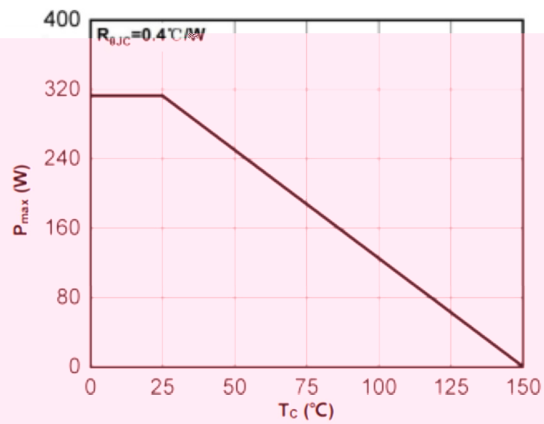


Figure 13: Max. Power Dissipation vs. Case Temperature

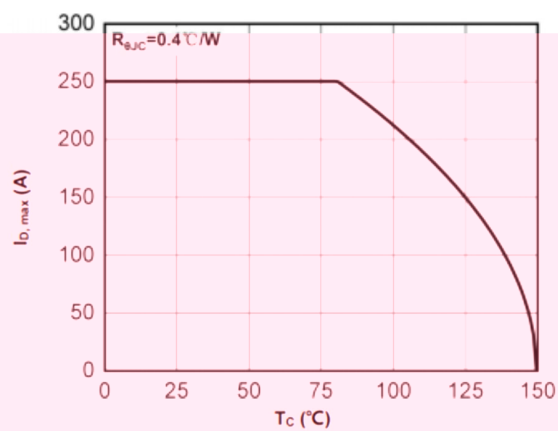


Figure 14: Max. Continuous Drain Current vs. Case Temperature

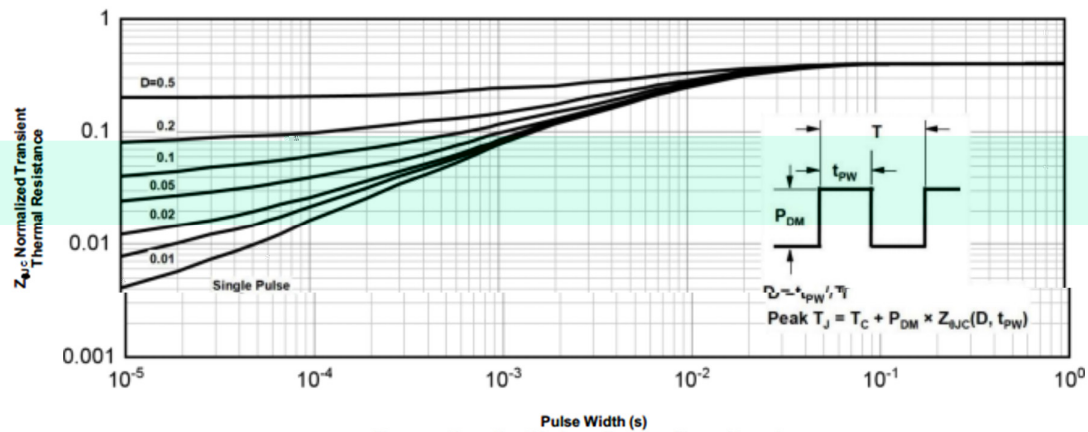
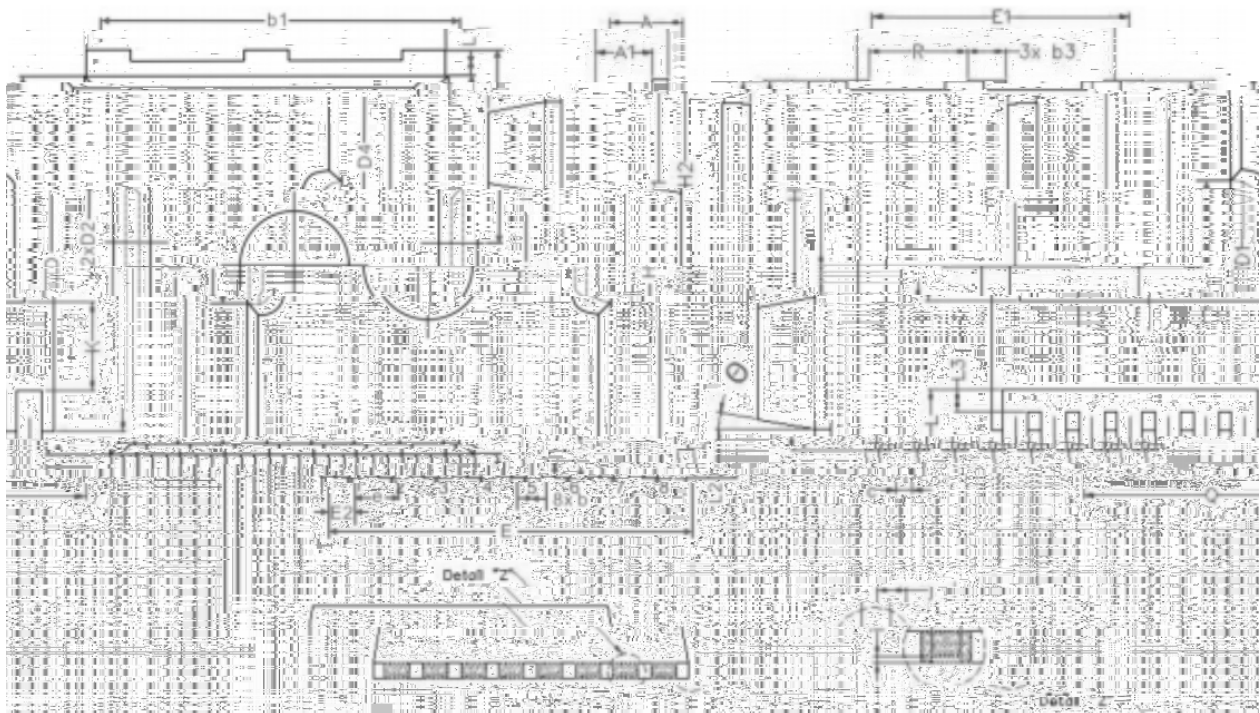


Figure 15: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40
	2.20	2.30	2.40

BRCS015N10SHTL

Rev.B Jun.-2026



DATA SHEET

/ Marking Instructions

() / Temperature Profile for IR Reflow Soldering(Pb-Free)

- 1

150 180

60 90sec;
- 2

245±5

5±
- Note:
1.Preheating:150~180 , Time:60~90sec.