TOLL-8L N

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

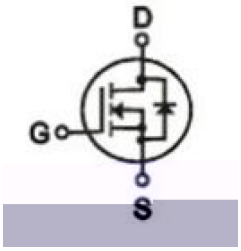
V_{DS}(V)=100V I_D=250A

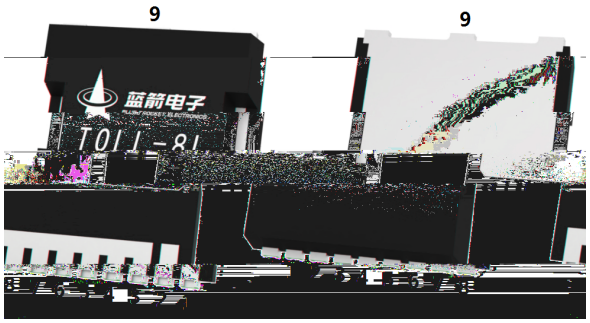
$R_{DS(ON)}$@10V≤1.4mΩ(Typ.1.2mΩ)

- HF Product.

DC/DC

DC/DC converter,Power switch,Motor drives.





PIN1：G PIN2、3、4、5、6、7、8：S PIN9：D

See Marking Instructions.

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)	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}=50V,V_{GS}=10V,L=0.3mH)		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	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V, V_{GS}=0V			1	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	2.5	3.3	4.1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=100A		1.2	1.4	mΩ
Diode Forward Voltage	V_{SD}	I_S=100A, V_{GS}=0V		0.9	1.2	V
Reverse recovery time	t_{rr}	V_{DS}=50 V, I_F=50A di/dt=100A/μs		92		ns
Reverse recovery charge	Q_{rr}			236		nC
Gate Resistance	R_g	f=1MHz		1.7		Ω
Input Capacitance	C_{iss}	V_{DS}=50V V_{GS}=0V f=1.0MHz		12000		pF
Output Capacitance	C_{oss}			3000		
Reverse Transfer Capacitance	C_{rss}			128		
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=50V I_D=100A		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 V_{DS}=50V R_G=4.7Ω I_D=100A		55		ns
Turn-On Rise Time	t_r			92		
Turn-Off Delay Time	$t_{d(off)}$			26		
Turn-Off Fall Time	t_f			35		

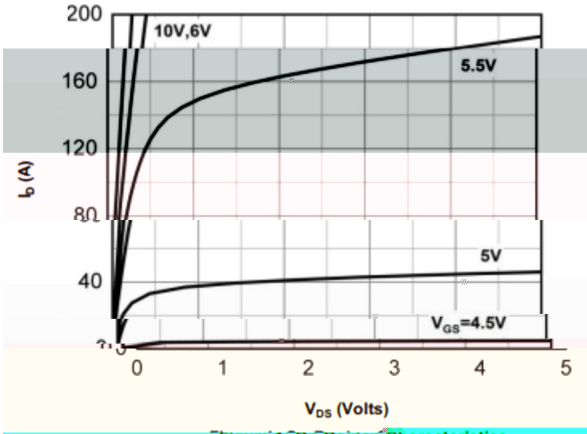


Figure 1: On-Region Characteristics

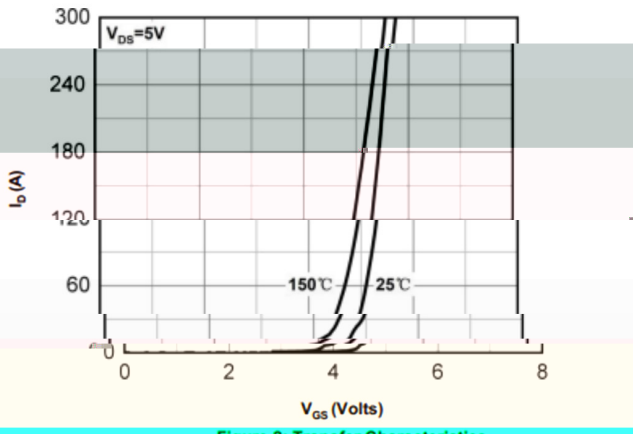


Figure 2: Transfer Characteristics

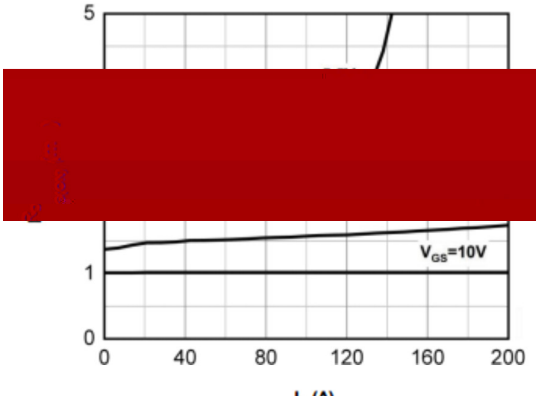


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

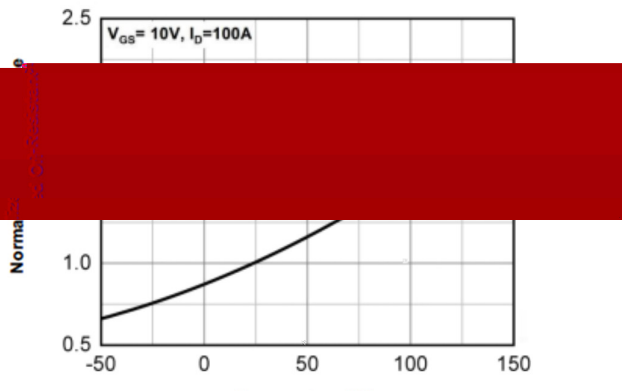


Figure 4: On-Resistance vs. Junction Temperature

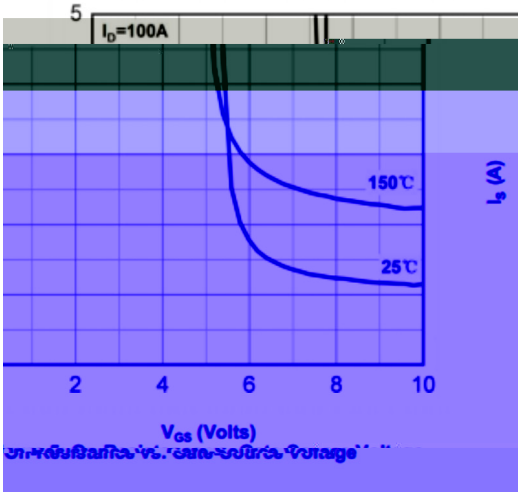


Figure 5: On-Resistance vs. Gate-Source Voltage

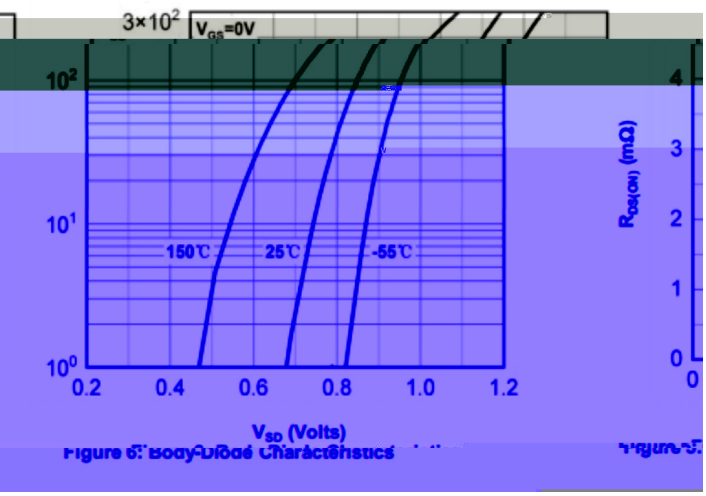


Figure 6: Body-Diode Characteristics

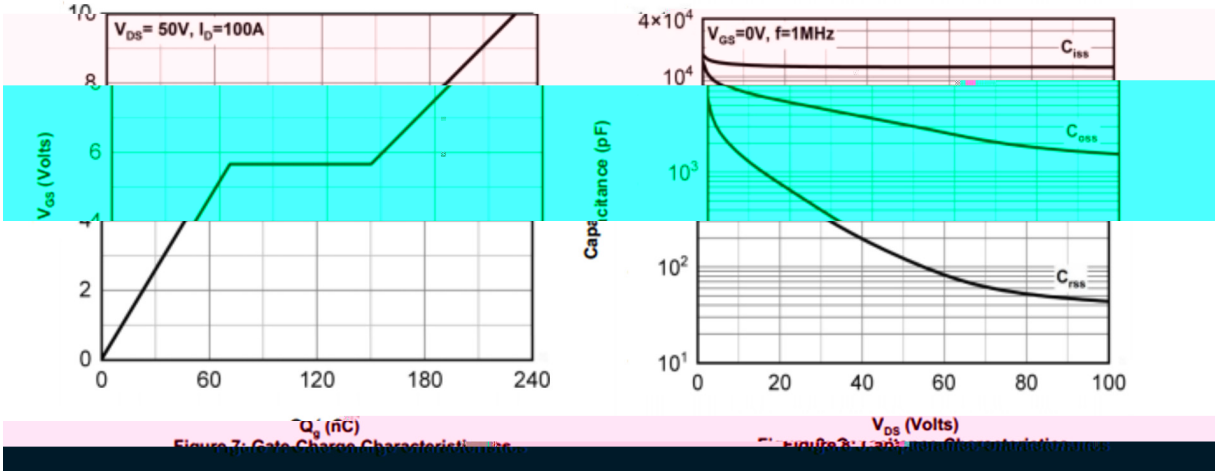


Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Characteristics

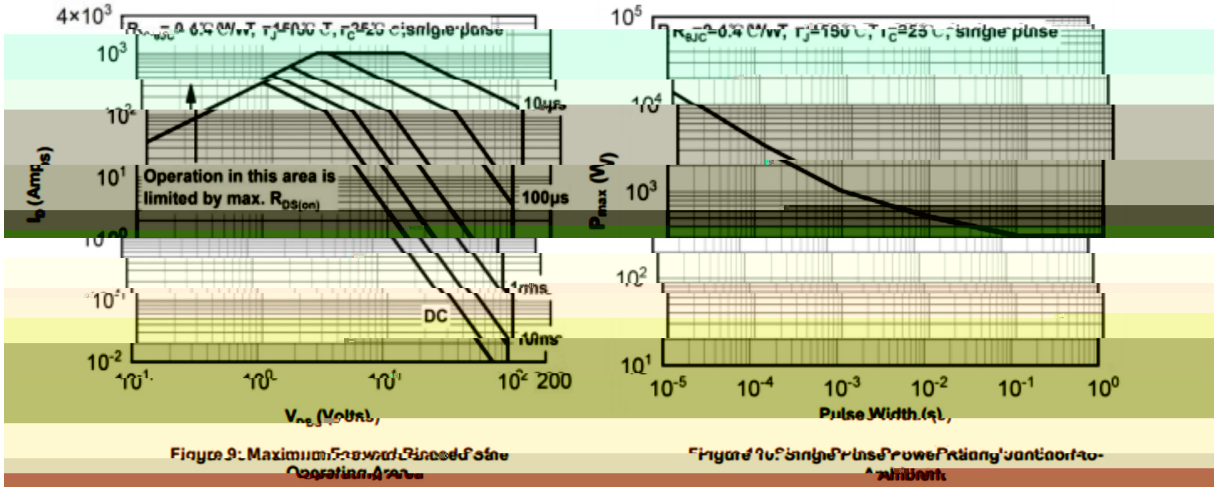


Figure 9: Maximum Forward Biased Safe Operating Area

Figure 10: Single Pulse Power Rating Junction-to-Ambient

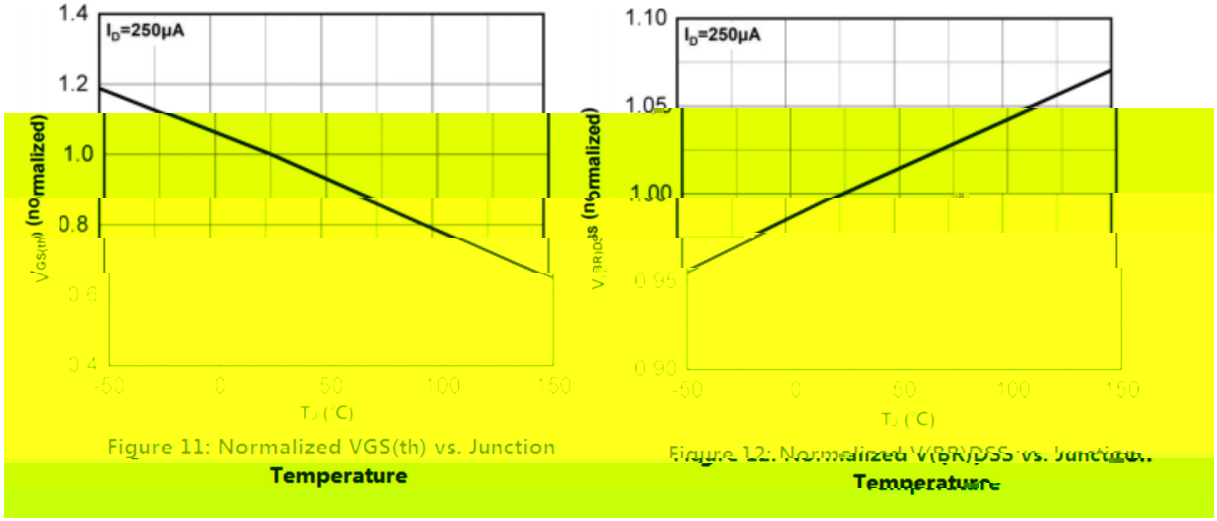


Figure 11: Normalized VGS(th) vs. Junction Temperature

Figure 12: Normalized V(BR)DSS vs. Junction Temperature

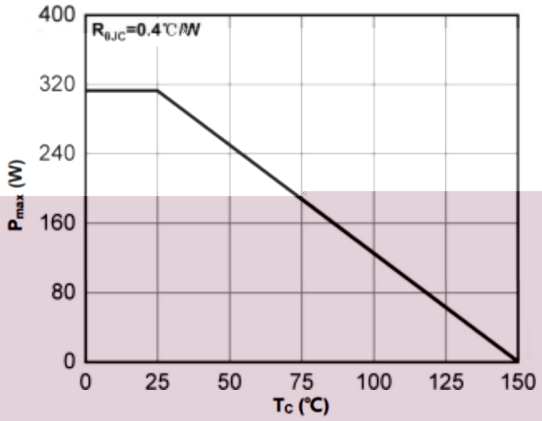


Figure 13: Max. Power Dissipation vs. Case Temperture

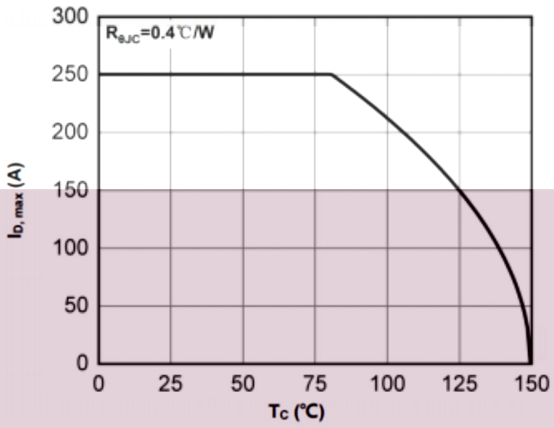


Figure 14: Max.Continuous Drain Current vs. Case Temperature

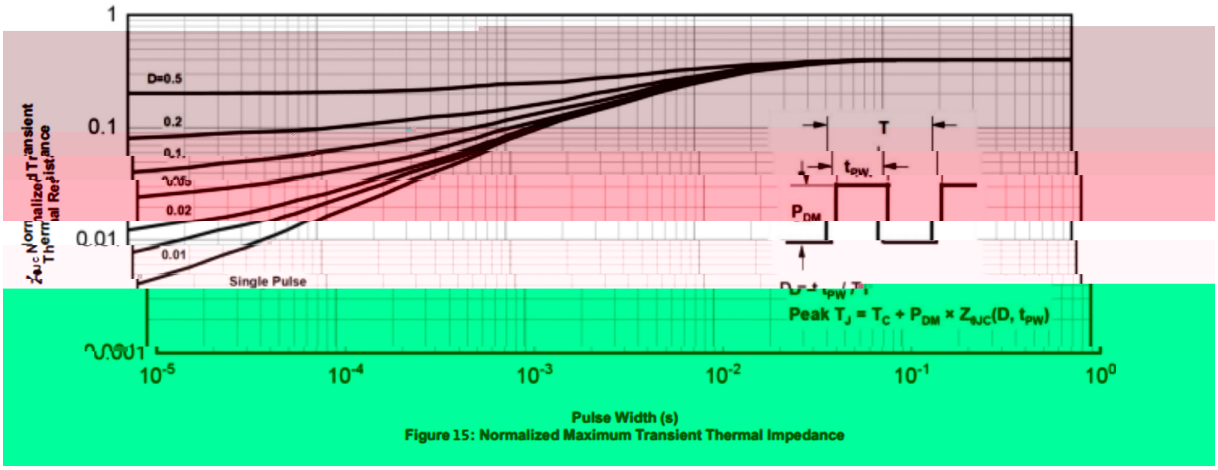
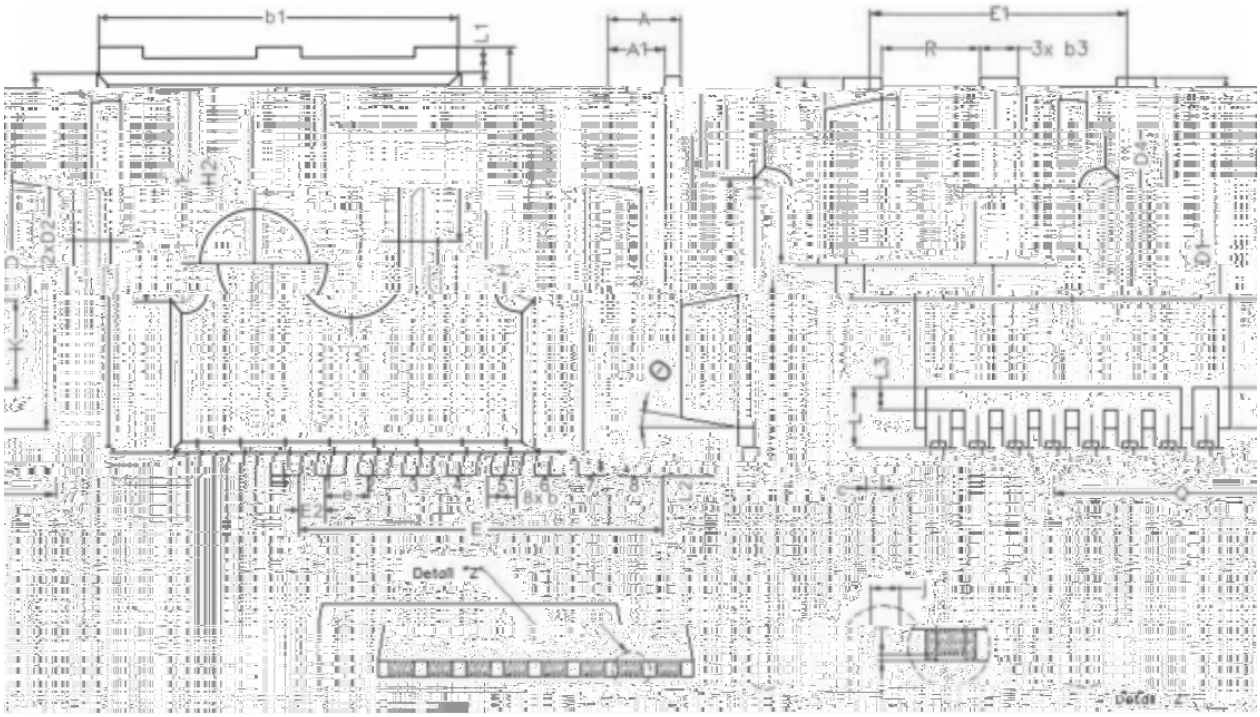
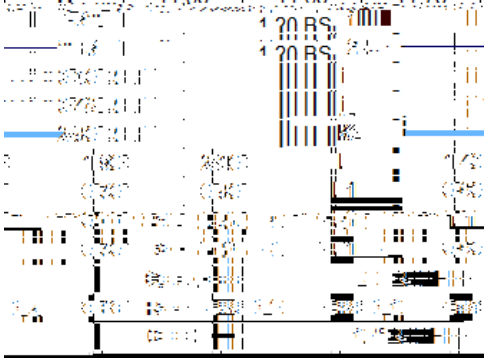


Figure 15: Normalized Maximum Transient Thermal Impedance



Symbol	Dimensions In Millmeters		
	Min	Typ	Max
A	2.20	2.30	2.40
A1	1.70	1.80	1.90
b	0.70	0.80	0.90
b1	9.70	9.80	9.90
b3	1.10	1.20	1.30
c	0.40	0.50	0.60
D	10.28	10.38	10.48
D1	10.98	11.08	11.18
D2	3.20	3.30	3.40
D4	4.45	4.55	4.65
E	9.80	9.90	10.00
E1	8.00	8.10	8.20
E2	0.60	0.70	0.80
e	1.20 BSC		
H	11.58	11.68	11.78



Temperature Profile for IR Reflow Soldering(Pb-Free)

			Note:
1	150 180	60 90sec;	1.Preheating:150~180 , Time:60~90sec.
2	245±5	5±0.5sec;	2.Peak Temp.:245±5 , Duration:5±0.5sec.
3		2 10 /sec.	3. Cooling Speed: 2~10 /sec.

260±5	10±1 sec.	Temp.:260±5	Time:10±1 sec

/ REEL