TOLL-8L N

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

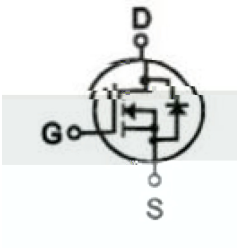
V_{DS}(V)=120V I_D=330A

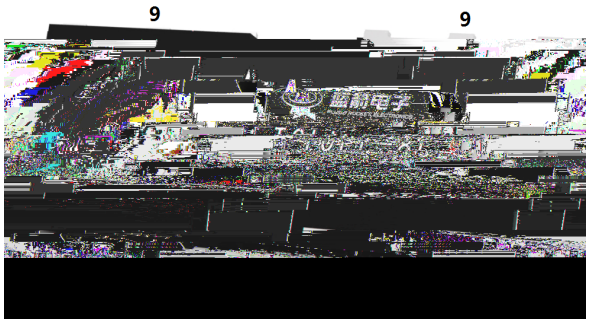
$R_{DS(ON)}$@10V≤1.6mΩ(Typ. 1.17mΩ)

HF Product.

DC/DC

Motor control and drives, Battery management, DC/DC converter.



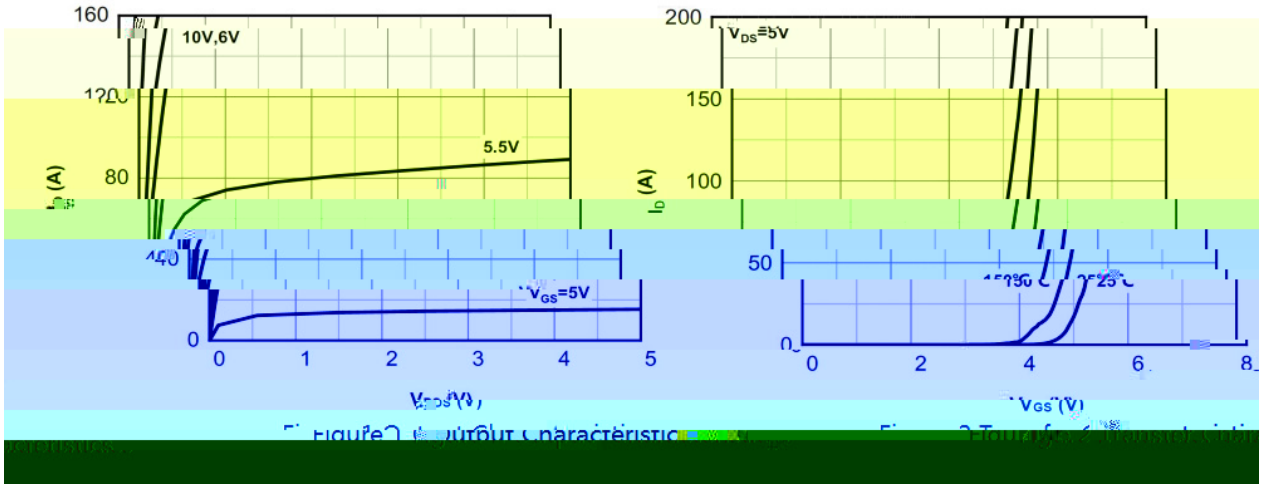


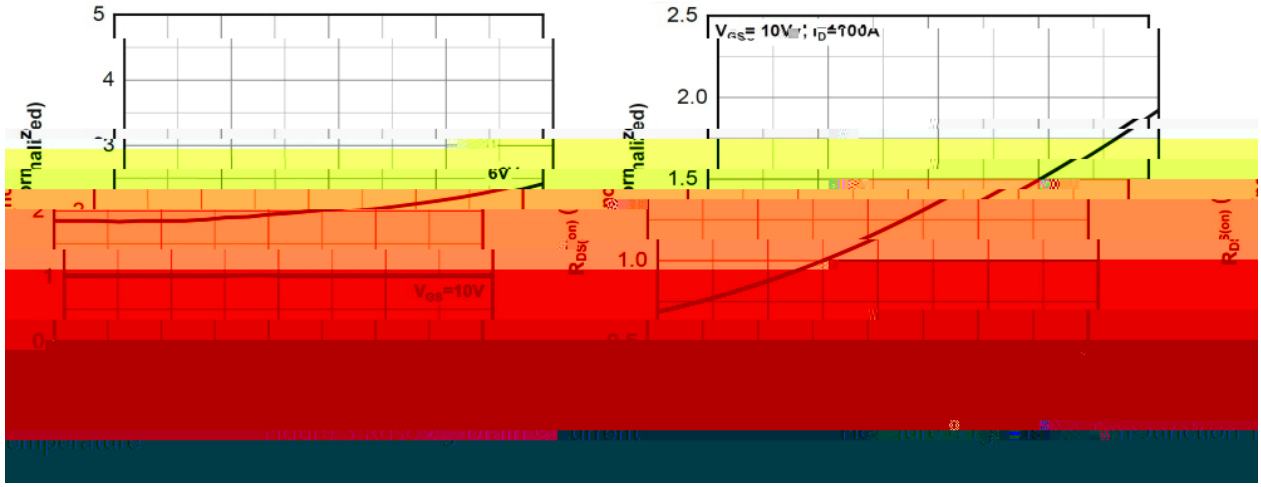
PIN1 G PIN2 3 4 5 6 7 8 S PIN9 D

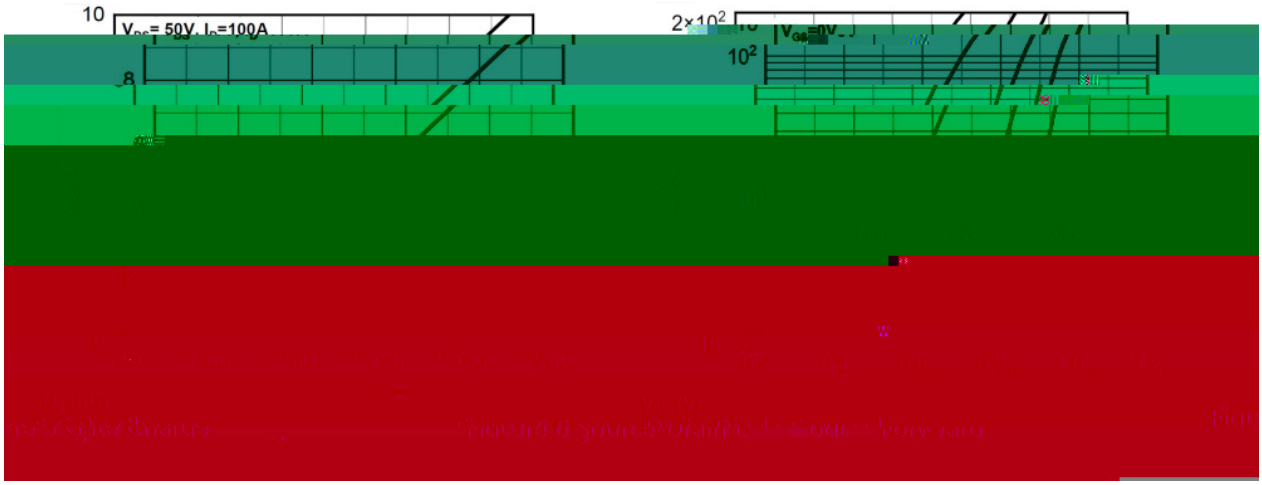
See Marking Instructions.

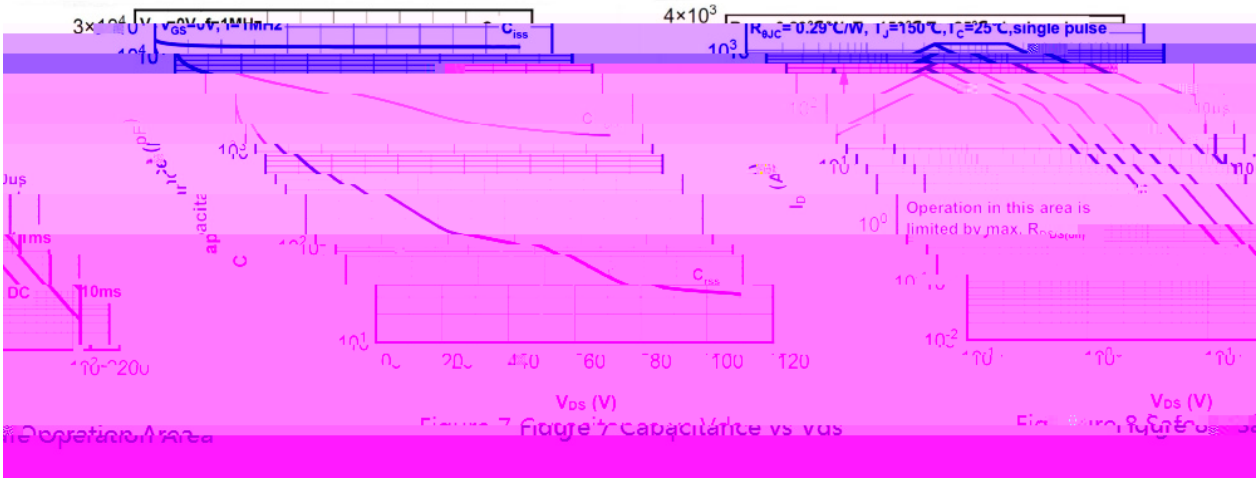
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	120	V
Drain Current(DC)	I_D(T_C=25)	330	A
	I_D(T_C=100)	258	A
Drain Current – Pulsed	I_{DM}	1320	A
Gate-Source Voltage	V_{GS}	20	V
Power Dissipation	P_{tot}	431	W
Single Pulse Avalanche Energy	E_{AS}	2601	mJ
Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - case	$R_{\theta JC}$	0.29	/W
Thermal resistance, junction - Ambient	$R_{\theta JA}$	40	

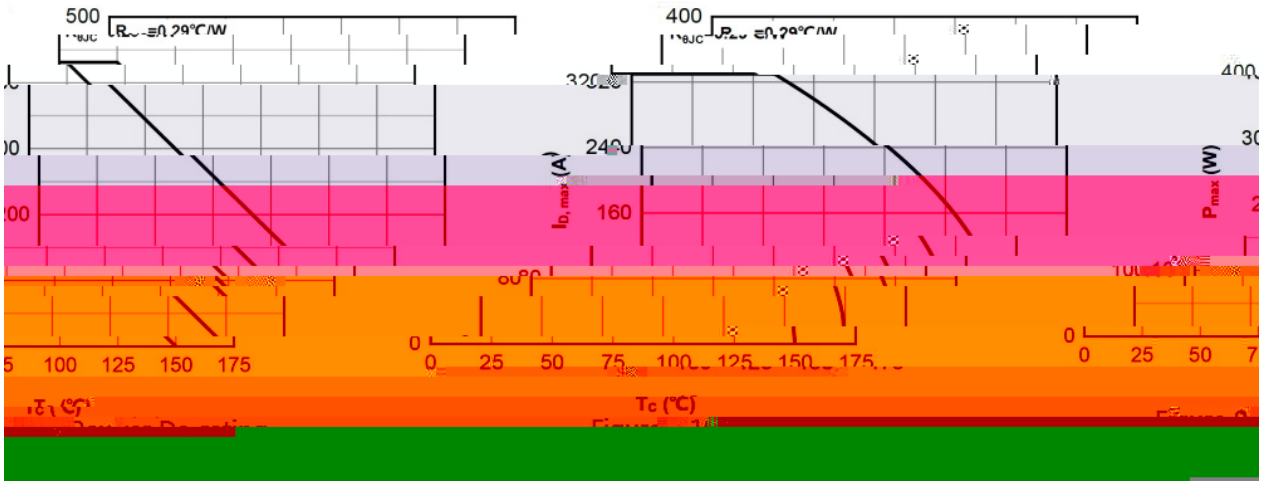
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	119	121		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=110V, V_{GS}=0V			1	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	2.2	3.0	4.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=40A		1.17	1.6	mΩ
Diode Forward Voltage	V_{SD}	I_S=40A, V_{GS}=0V		0.85	1.1	V
Reverse Recovery Time	t_{rr}					

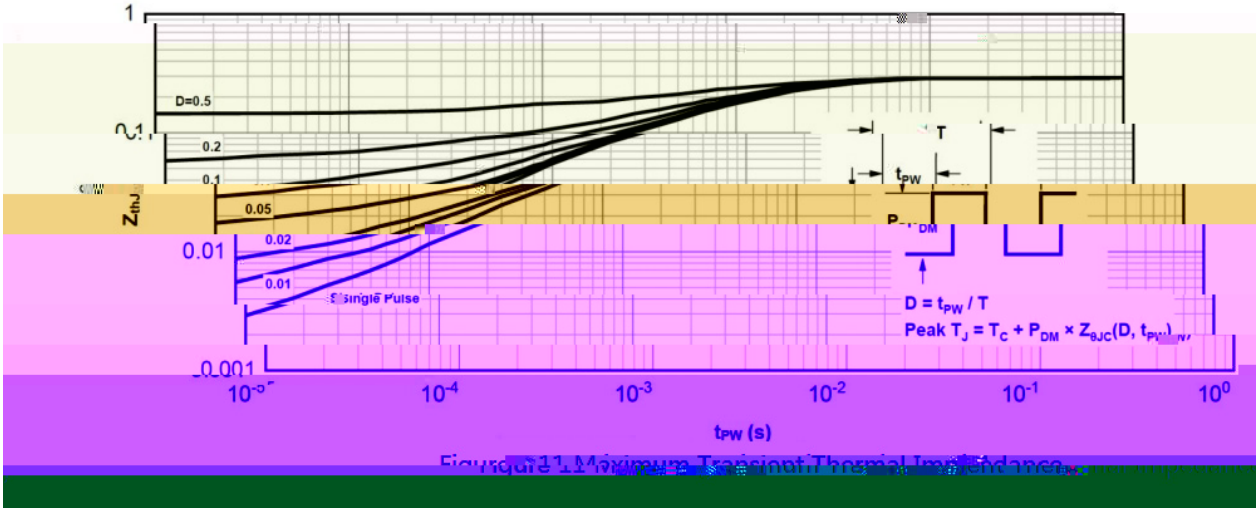

160
120
80
40
0
10V,6V
5.5V
V_{GS}=5V
I_D (A)
0
1
2
3
4
5
V_{DS}(V)
200
150
100
50
0
V_{DS}=5V
I_D (A)
0
2
4
6
8
V_{GS}(V)

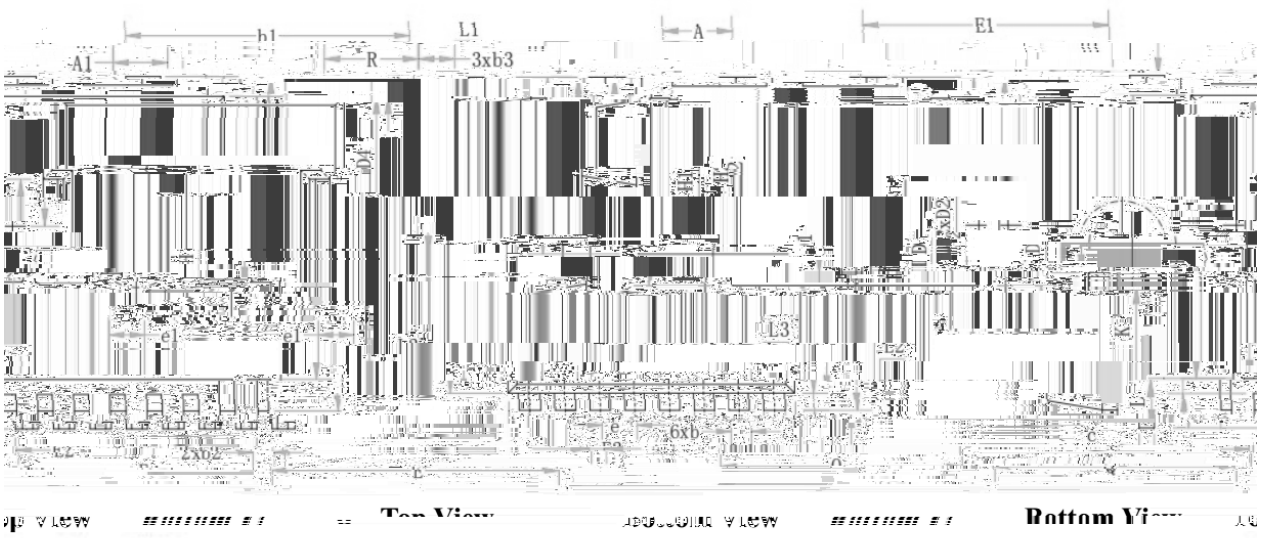

5
4
3
2
1
0
V_{GS}=10V
$R_{DS(on)}$
2.5
2.0
1.5
1.0
V_{GS}= 10V; I_D=100A
$R_{DS(on)}$


10
8
V_{DS}= 50V, I_D=100A
2×10^2
10^2
V_{GS}=0V


Operation in this area is
limited by max. R
DC
10ms
Capacitance vs Vds
VDS (V)
VDS (V)

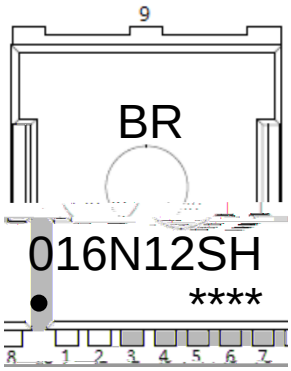

500
400
ID, max (A)
Pmax (W)
TC (℃)
TC (℃)


D=0.5
0.2
0.1
0.05
0.02
0.01
Single Pulse
ZthJ
T
tPW
PDM
D = tPW / T
Peak TJ = TC + PDM × ZθJC(D, tPW)
tPW (s)



Top View Bottom View

Symbol	Min	Typ	Max	Symbol	Min	Typ	Max
A	2.25	2.30	2.35	E	0.985	0.990	0.995
A1	1.75	1.80	1.85	E1	8.00	8.10	8.2
b	0.65	0.70	0.75	E2	0.65	0.70	0.7
b1	9.75	9.80	9.85	H	11.60	11.70	
b2	0.70	0.75	0.80	H1	6.95 BSC		
b3	1.15	1.20	1.25	H2	3.90 BSC		
c	0.45	0.50	0.55	K	3.10 REF		
1.75	D	10.35	10.40	10.45	L	1.55	1.65
0.75	D1	11.00	11.10	11.20	L1	0.65	0.70
0.60	0.70	D2	3.25	3.30	3.35	L2	0.50	0
0.50	0.60	D4	4.50	4.55	4.60	L3	0.40	
7.95REF		e	1.20 BSC			R		
3.10	3.20	e1	1.225BSC			R1	3.00	



BR

016N12SH

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Note

BR	Company Code
016N12SH	Product Type Code
****:	Lot No. Code, code change with Lot No.

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 6060