/ Descriptions

TOLL-8L N

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

/ Features

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

$R_{DS(ON)}$@10V≤1.6mΩ(Typ. 1.17mΩ)

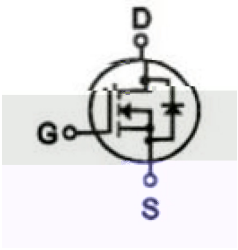
HF Product.

/ Applications

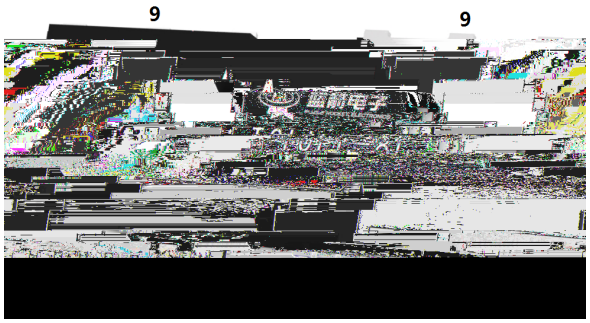
DC/DC

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

/ Equivalent Circuit



/ Pinning



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

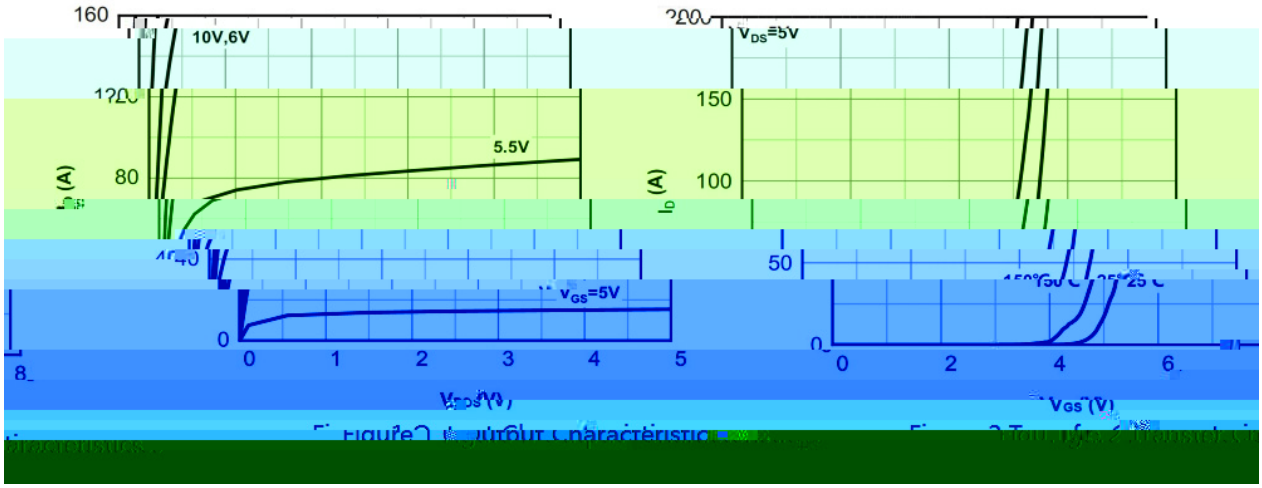
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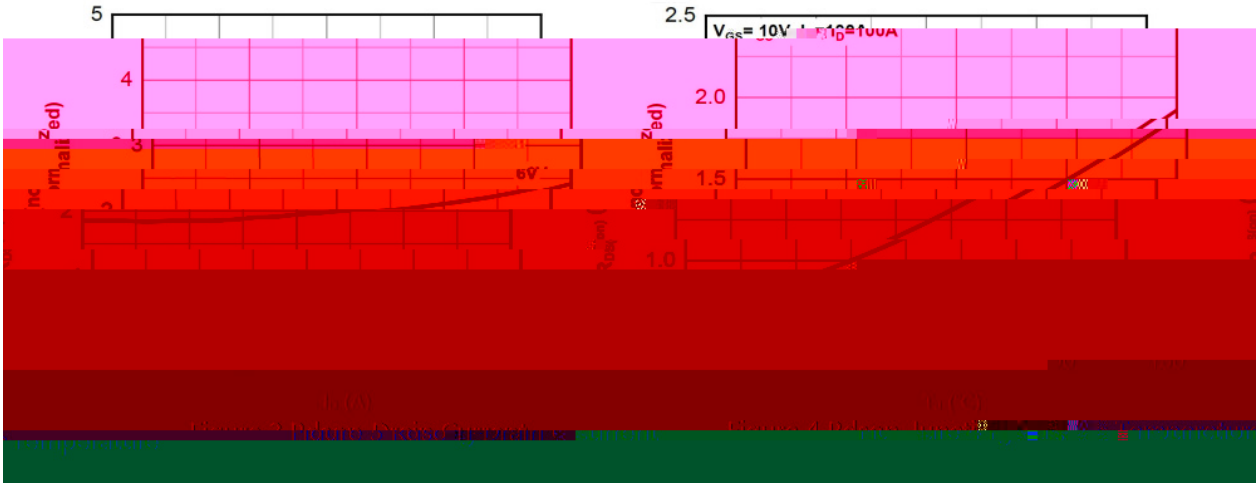
See Marking Instructions.

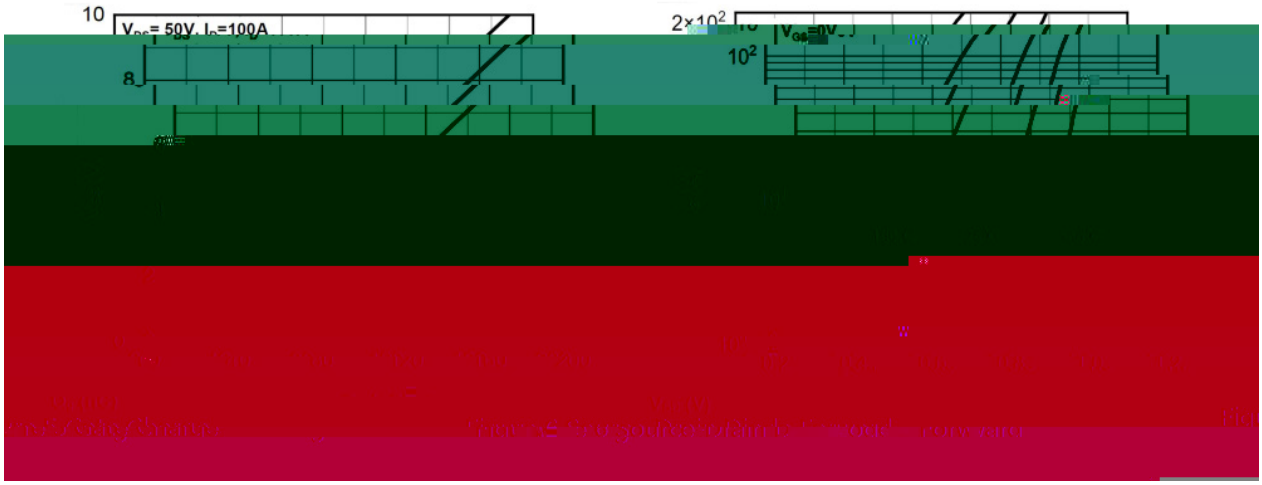
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	120	V
Drain Current(DC)	I_D(T_C=25)	330	A
	I_D(T_C=100)	258	A
Drain Current – Pulsed	I_{DM}	1320	A
Gate-Source Voltage	V_{GS}	20	V
Power Dissipation	P_{tot}	431	W
Single Pulse Avalanche Energy	E_{AS}	2601	mJ
Junction and Storage Temperature Range	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}					

/ Electrical Characteristic Curve







/ Electrical Characteristic Curve

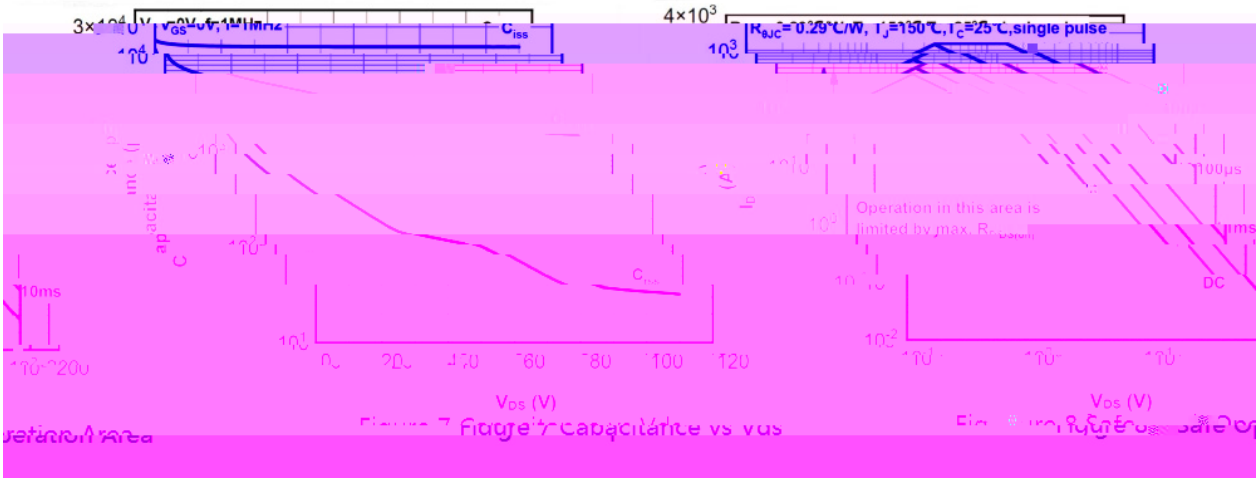
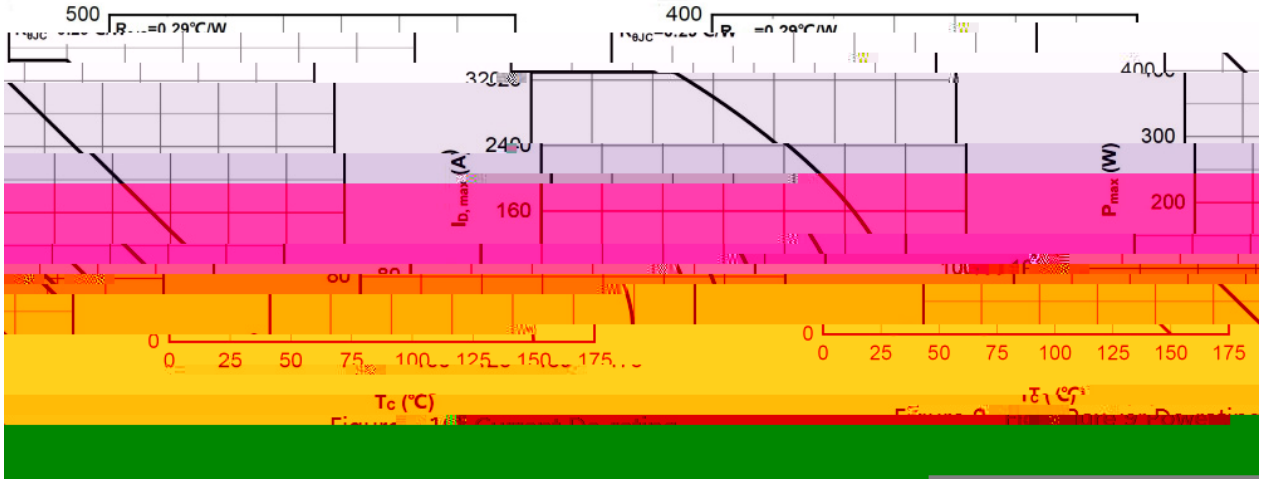


Figure 7 Figure 7 Capacitance vs Vds



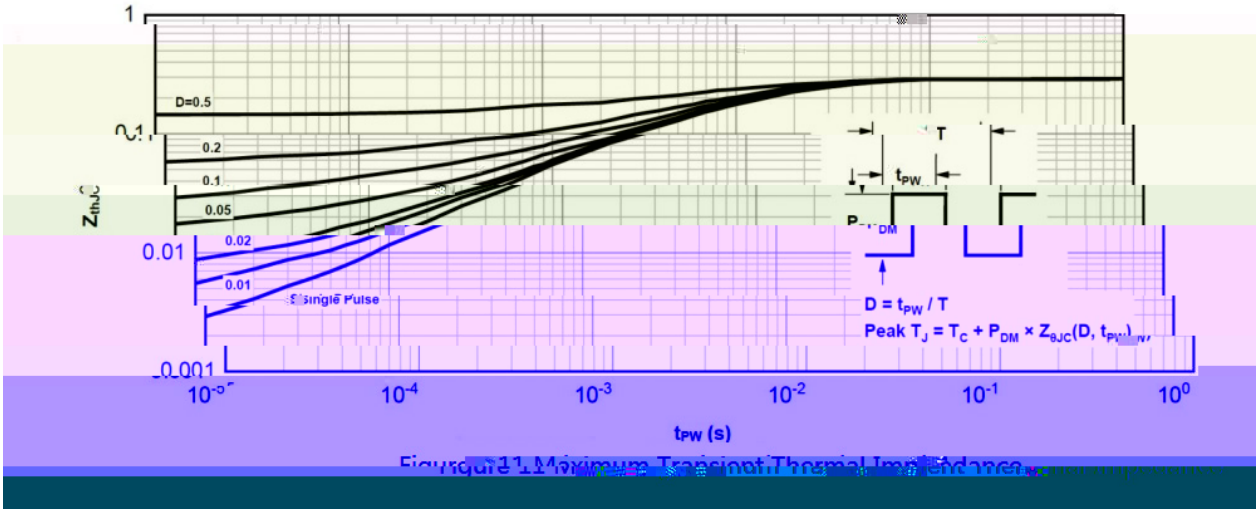
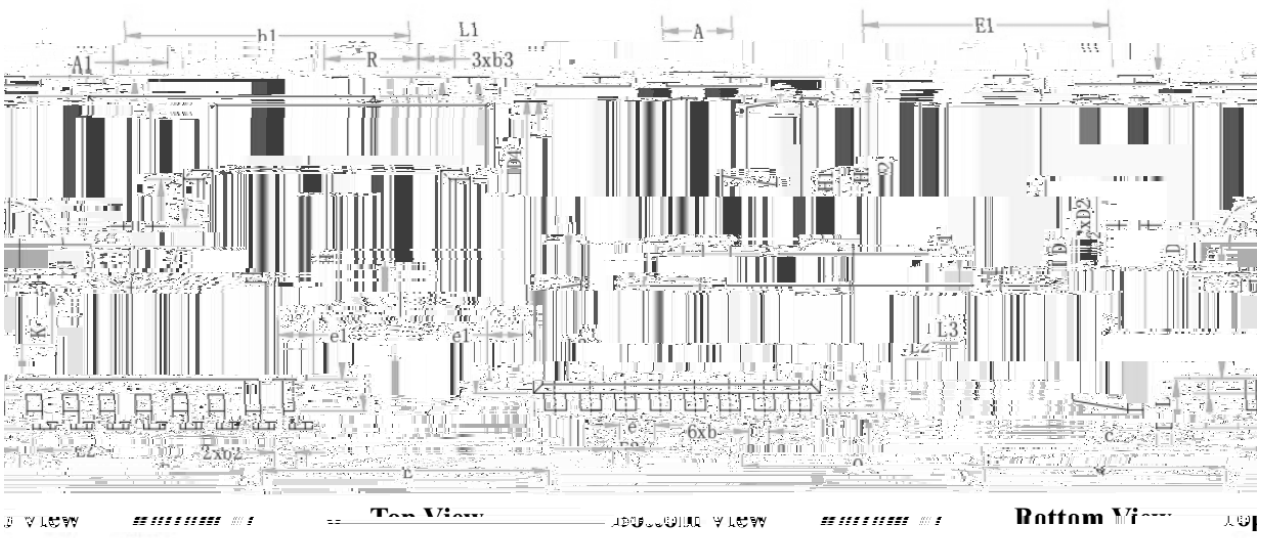


Figure 11 Maximum Transient Thermal Impedance

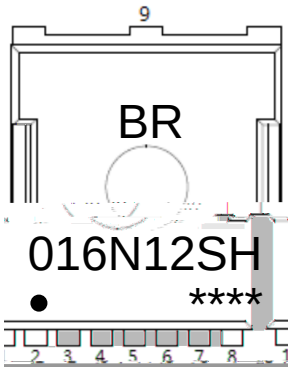
/ Package Dimensions





Symbol	Min.	Typ.	Max.	Symbol	Min.	Typ.	Max.
A	2.225	2.230	2.235	E	9.985	9.990	9.995
A1	1.775	1.780	1.785	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	1
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	
0.95 REF		e	1.20 BSC					
3.10	3.20	e1	1.225 BSC			R	3.00	

/ Marking Instructions



BR

016N12SH

****

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.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

(/e (REEL 23.4(L)2 70a4614.78 .959968-7.9(w)9.660~90sec.6259968-1959