TOLL-8L-Clip N

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

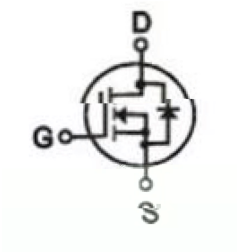
V_{DS}(V)=60V I_D=354A

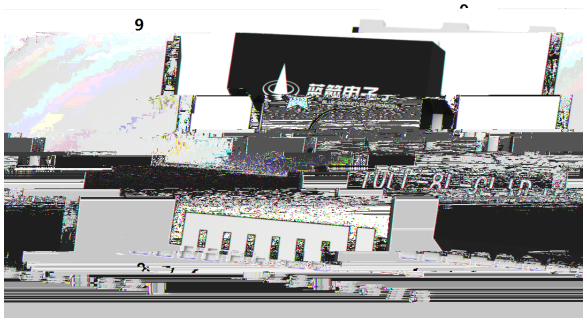
$R_{DS(ON)}$@10V≤0.98mΩ(Typ. 0.82mΩ)

HF Product.

BMS

BMS,High power inverter system,Drones,Light electric vehicles.





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

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Drain Current - Continuous		I_D	354	A
Drain Current - Continuous		I_D(T_c=100)	251	A
Drain Current – Pulsed		I_{DM}	1416	A
Gate-Source Voltage		V_{GS}	20	V
Power Dissipation		P_{tot}	230	W
Continuous-Source Current		I_S(T_c=25)	354	A
Single Pulse Avalanche Energy(L=1.0mH)		E_{AS}	1250	mJ
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 175	
Thermal resistance, junction - ambient	Steady-State	R JA	44	/W
Thermal resistance, junction - case	Steady-State	R JC	0.65	/W

Note 1 Surface Mounted on 1 in^2 pad area, t ≤ 10 sec.

Note 2 Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.

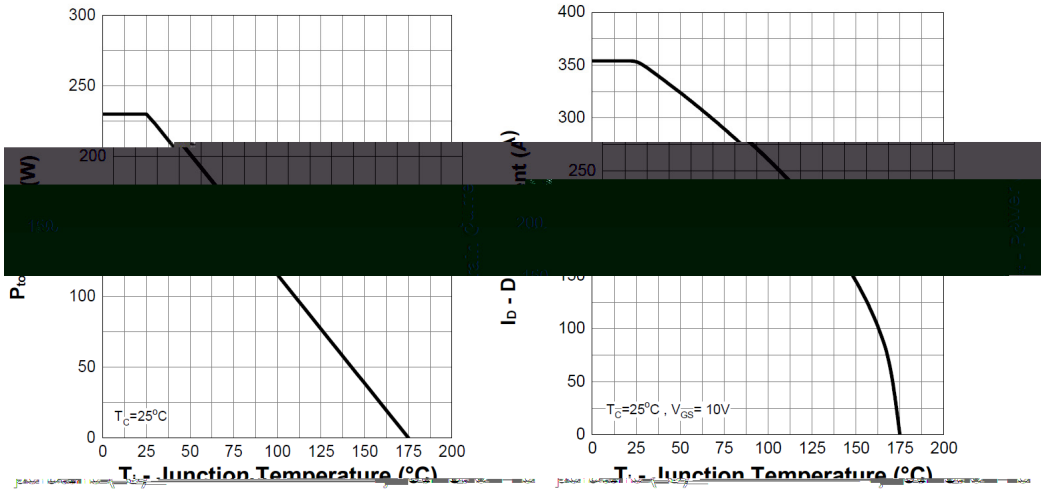
Note 3 Limited by bonding wire.

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=48V, 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	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=50A		0.82	0.98	mΩ
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=6V, I_D=30A		1.52	1.98	mΩ
Diode Forward Voltage	V_{SD}	I_S=50A, V_{GS}=0V			1.3	V
Input Capacitance	C_{iss}	V_{DS}=30V V_{GS}=0V f=1.0MHz		6108		pF
Output Capacitance	C_{oss}			2088		pF
Reverse Transfer Capacitance	C_{rss}			87		pF
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=30V I_{DS}=50A		151		nC
Gate Source Charge	Q_{gs}			34		nC
Gate Drain Charge	Q_{gd}			35		nC

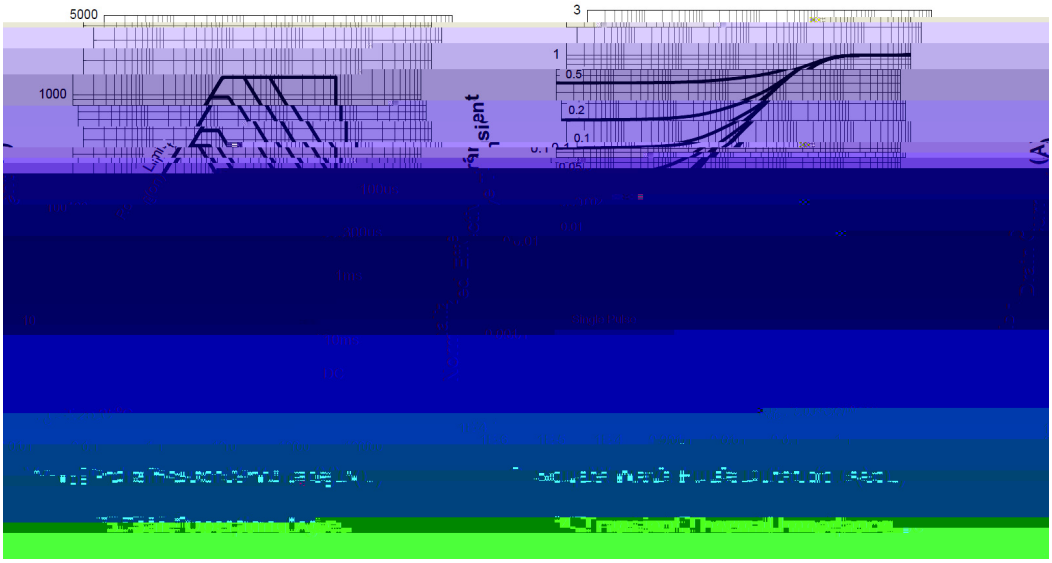
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GEN}=10V V_{DS}=30V R_L=0.6Ω R_G=3.9Ω I_{DS}=50A		25		ns
Turn-On Rise Time	t_r			112		
Turn-Off Delay Time	$t_{d(off)}$			70		
Turn-Off Fall Time	t_f			72		
Reverse Recovery Time	t_{rr}	I_{DS} = 50 A, V_{GS} = 0 V dI_{SD}/dt = 100 A/μs		92		nS
Reverse Recovery Charge	Q_{rr}			105		nC

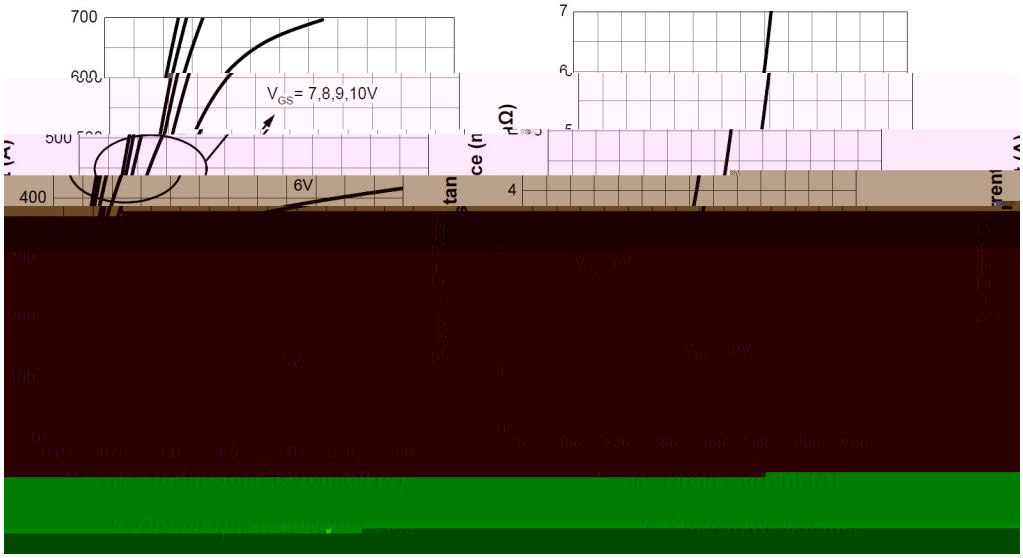
Note 1 Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.

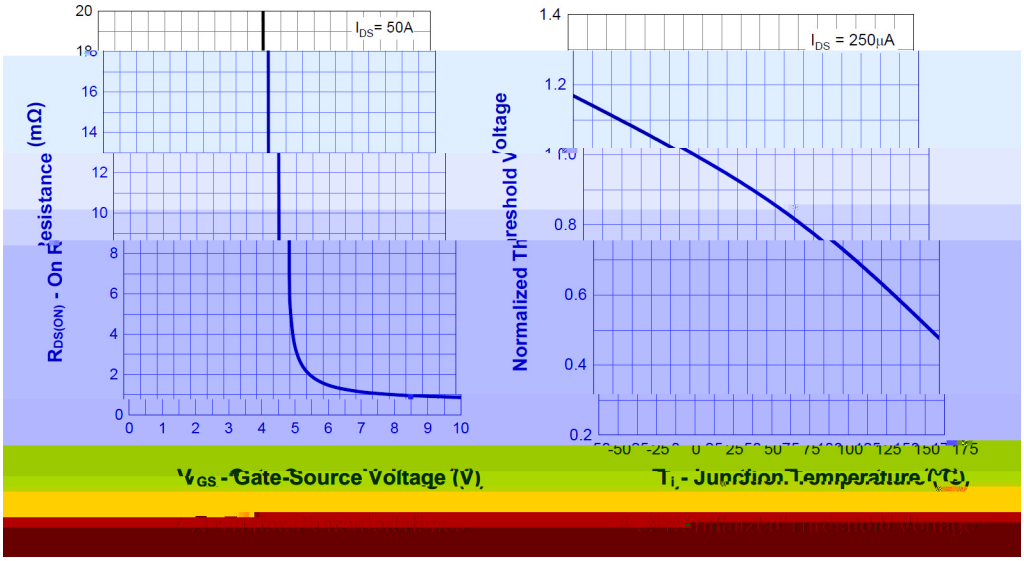
Note 2 Guaranteed by design, not subject to production testing.

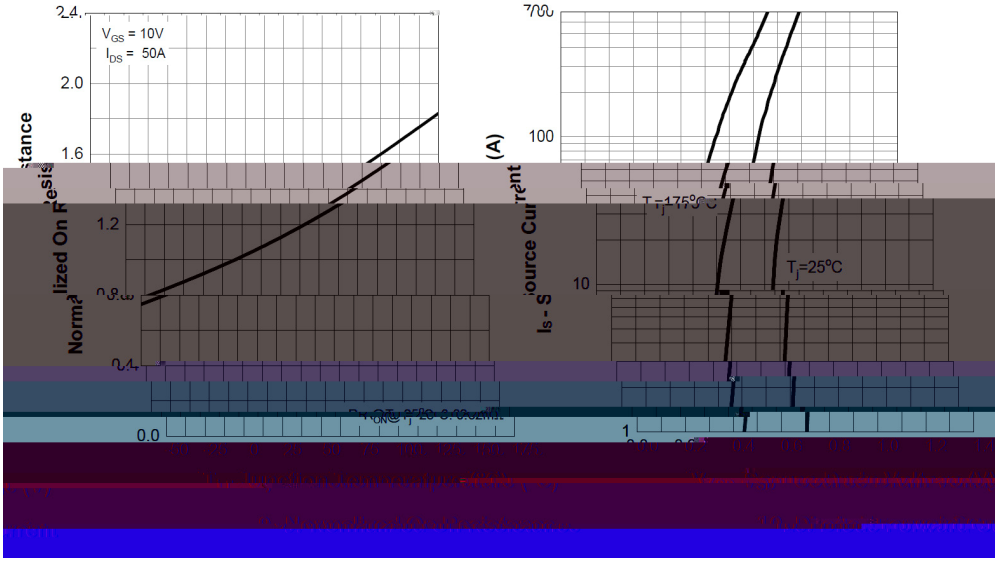


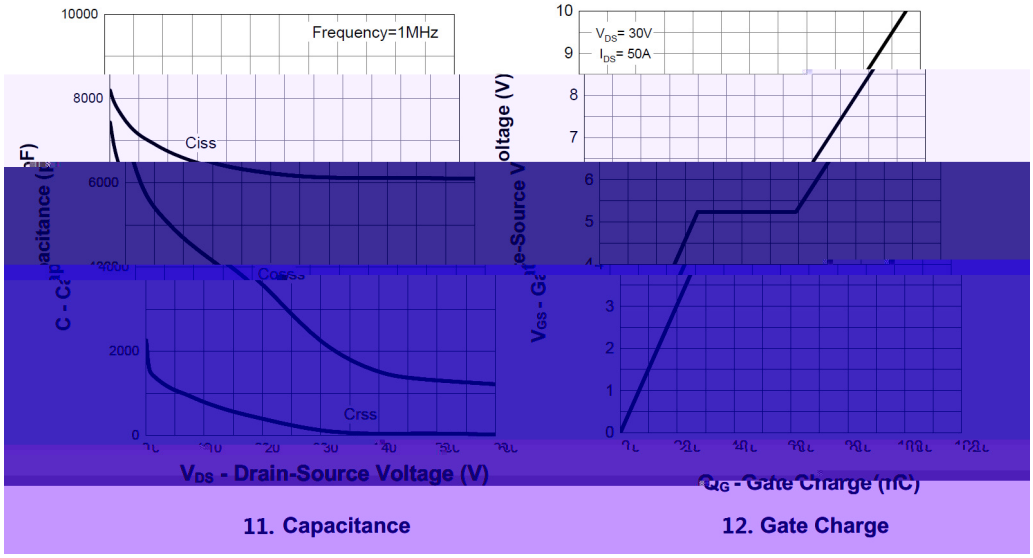
Capability 1. Power Capability 2. Current

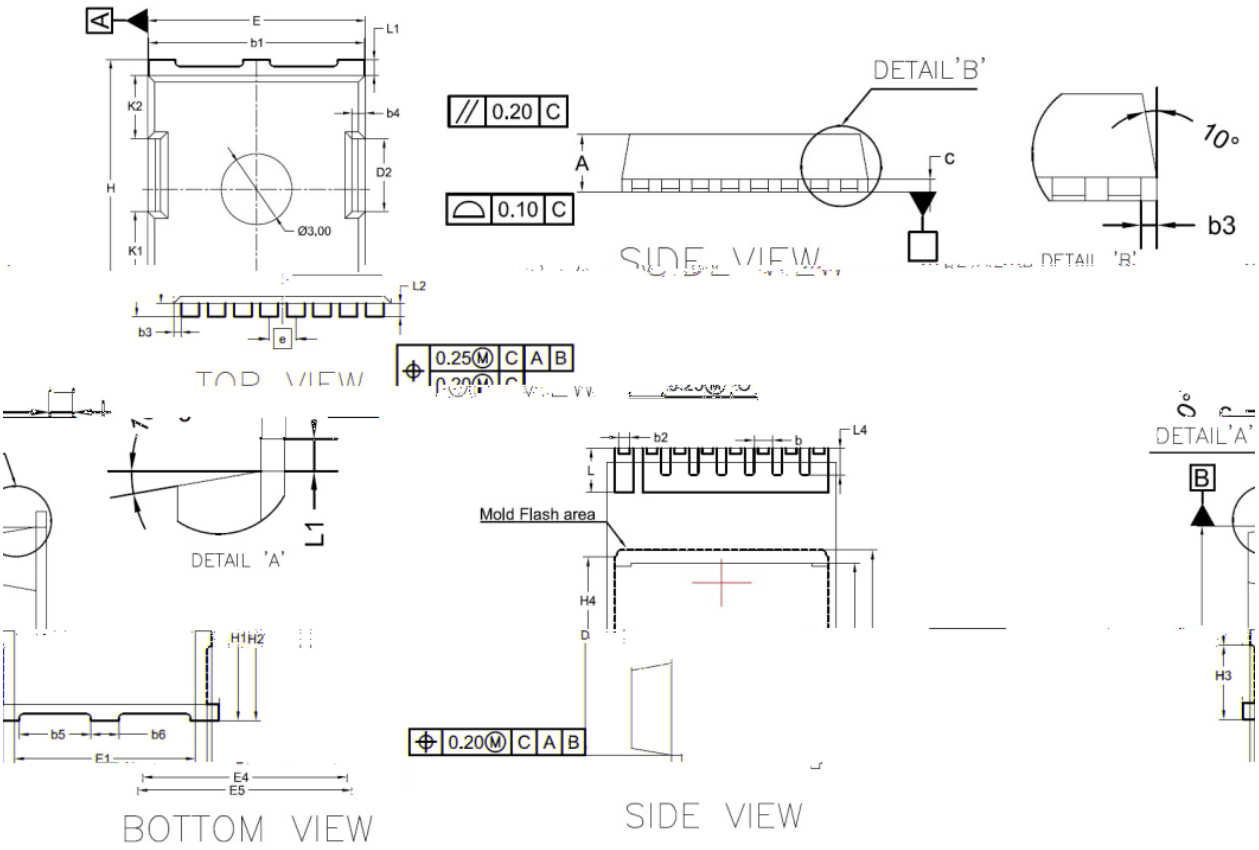




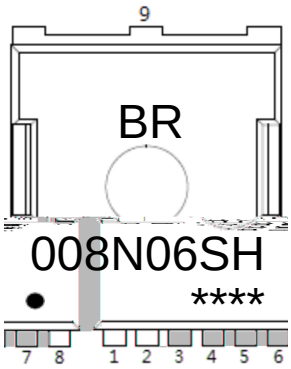

I_{DS}= 50A
$R_{DS(ON)}$ - On Resistance (mΩ)
V_{GS} - Gate-Source Voltage (V)
I_{DS} = 250μA
Normalized Threshold Voltage
T_J - Junction Temperature (°C)


V_{GS} = 10V
I_{DS} = 50A
Normalized On Resistance
T_J=175°C
T_J=25°C
I_S - Source Current (A)


Frequency=1MHz
Ciss
Coss
Crss
C - Capacitance (pF)
V_{DS} - Drain-Source Voltage (V)
11. Capacitance
V_{DS}= 30V
I_{DS}= 50A
V_{GS} - Gate-Source Voltage (V)
Q_G - Gate Charge (nC)
12. Gate Charge



Symbol	Dimensions In Millimeters			Symbol	Dimensions In Millimeters		
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.
A	2.200	2.300	2.400	b1	9.700	9.800	9.900
c	0.492	0.500	0.508	b1	0.420	0.460	0.500
D	10.280	10.380	10.480	b3		0.350	
E	9.800	9.900	10.000	b4		0.600	
e		1.20 BSC		b5		3.100	
H	11.580	11.680	11.780	b6		1.200	
H1	6.650	6.750	6.850	L	1.700	1.900	2.100
H2		7.300		L1		0.700	
H3		3.200		L2		0.600	
H4		3.800		L4	1.050	1.150	1.250
K1		4.180		L5	0.500	0.600	0.700
K2		2.900		E1		7.800	
D2		3.300		E4		8.800	
b	0.700	0.800	0.900	E5		9.200	



BR

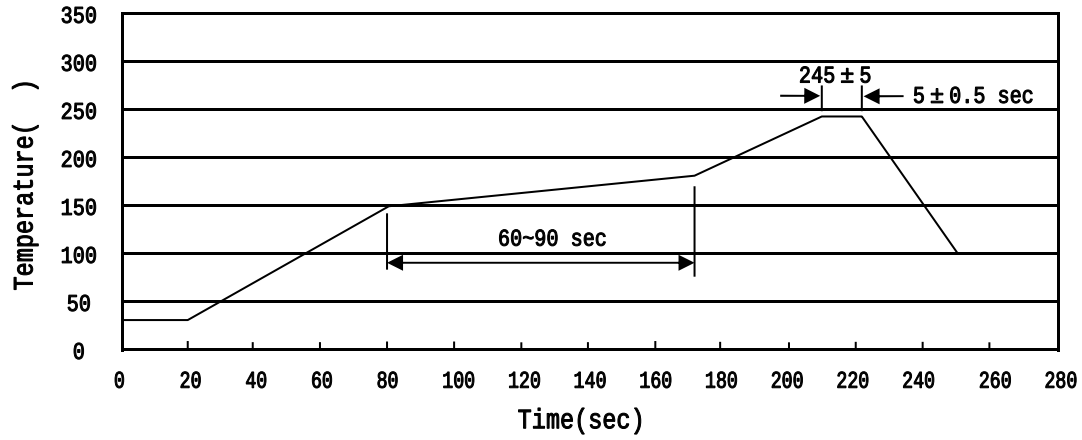
008N06SH

****

Note

BR	Company Code
008N06SH	Product Type Code
****:	Lot No. Code, code change with Lot No.

Temperature Profile for IR Reflow Soldering(Pb-Free)



1		150	180		60	90sec;	
2		245±5				5±0.5sec;	
3				2	10	/sec.	

Note:

1.Preheating:150~180 , Time:60~90sec.

2.Peak Temp.:245±5 , Duration:5±0.5sec.

3. Cooling Speed: 2~10 /sec.

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

/ REEL

Package Type	Units					Dimension		(unit mm³)
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
TOLL-8L-Clip	2,000	1	2,000	6	12,000	13''×24	360×360×50	380×335×366