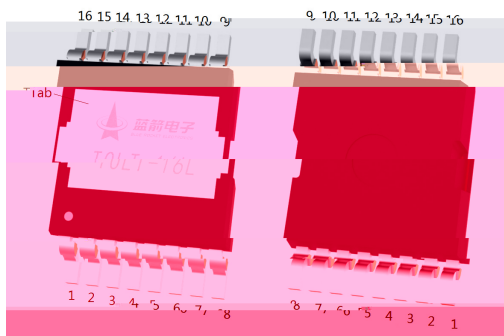
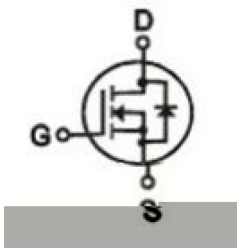


TOLT-16L N
 N-Channel MOSFET in a TOLT-16L Plastic Package .

$V_{DS}(V)=60V$ $I_D=650A$
 $R_{DS(ON)}@10V$ 0.6m (Typ. 0.45 m)
 $R_{DS(ON)}@6V$ 1.2m (Typ. 0.78 m)
 HF Product.

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



PIN1 2 3 4 5 6 7 S PIN8 G PIN9 10 11 12 13 14 15 16 Tab D

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Drain Current(DC)	$I_D(T_C=25^\circ\text{C})$	650	A
	$I_D(T_C=100^\circ\text{C})$	460	A
Drain Current – Pulsed ^{*,**}	I_{DM}	2054	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	P_{tot}	468	W
Single Pulse Avalanche Energy	E_{AS}	7455	mJ
Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 175	
Thermal resistance, junction – ambient ^{**}	R_{JA}	50	/ W
Thermal resistance, junction – case ^{**}	R_{JC}	0.32	

Notes:

^{*} Pulse width 300 μ s, duty cycle 2 %

^{**} Surface Mounted on minimum footprint pad area

^{***} Limited by bonding wire

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=48\text{V}, V_{GS}=0\text{V}$			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		4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=80\text{A}$		0.45	0.6	$\text{m}\Omega$
		$V_{GS}=6\text{V}, I_D=80\text{A}$		0.78	1.2	$\text{m}\Omega$
Diode Forward Voltage	V_{SD}	$I_S=5\text{A}, V_{GS}=0\text{V}$			1.3	V
Reverse Recovery Time	t_{rr}	$I_D = 50\text{A}, V_{DS} = 30\text{V}$ $dI_{SD}/dt = 100\text{A}/\mu\text{s}$		69		nS
Reverse Recovery Charge	Q_{rr}			116		nC
Gate resistance	R_g	$V_{DS}=0\text{V}, V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		2.4		
Input Capacitance	C_{iss}	$V_{DS}=30\text{V}, V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		12610		μF
Output Capacitance	C_{oss}			4650		
Reverse Transfer Capacitance	C_{rss}			1250		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	$V_{GS}=10V, \quad V_{DS}=30V$ $I_{DS}=50A$		214		nC
Gate Source Charge	Q_{gs}			41		
Gate Drain Charge	Q_{gd}			54		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V \quad V_{DS}=30V$ $R_G=3 \quad I_D=50A$		36.7		ns
Turn-On Rise Time	t_r			173		
Turn-Off Delay Time	$t_{d(off)}$			135		
Turn-Off Fall Time	t_f			92.8		

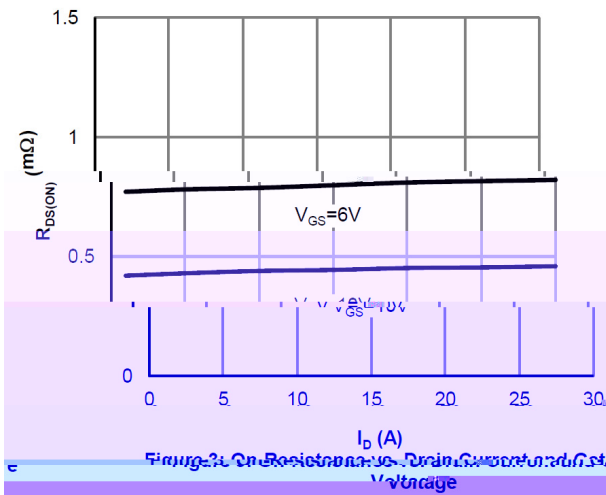
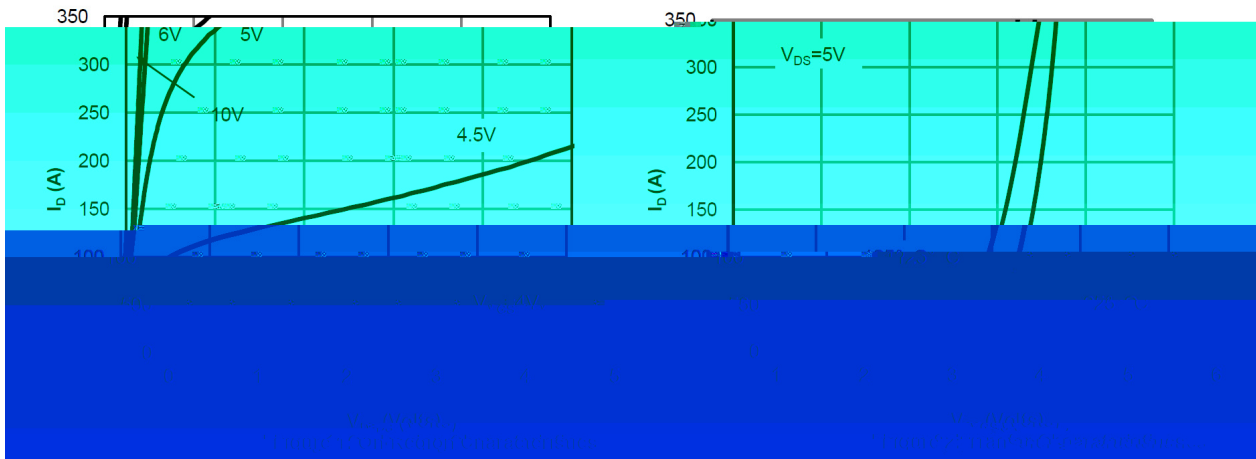


Figure 2: On-Resistance vs. Drain Current and Gate-Source Voltage

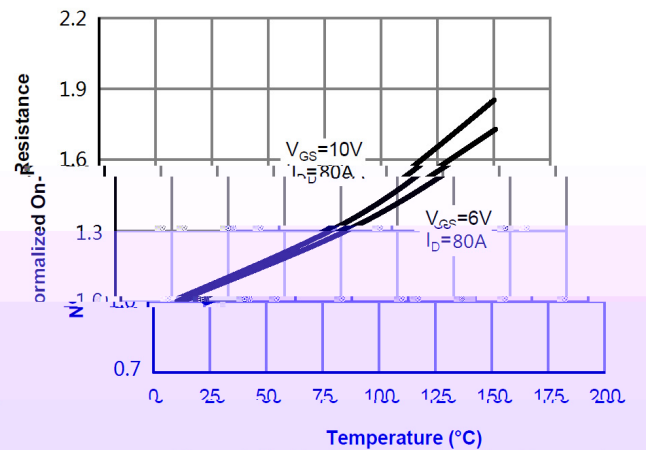


Figure 3: On-Resistance vs. Junction Temperature

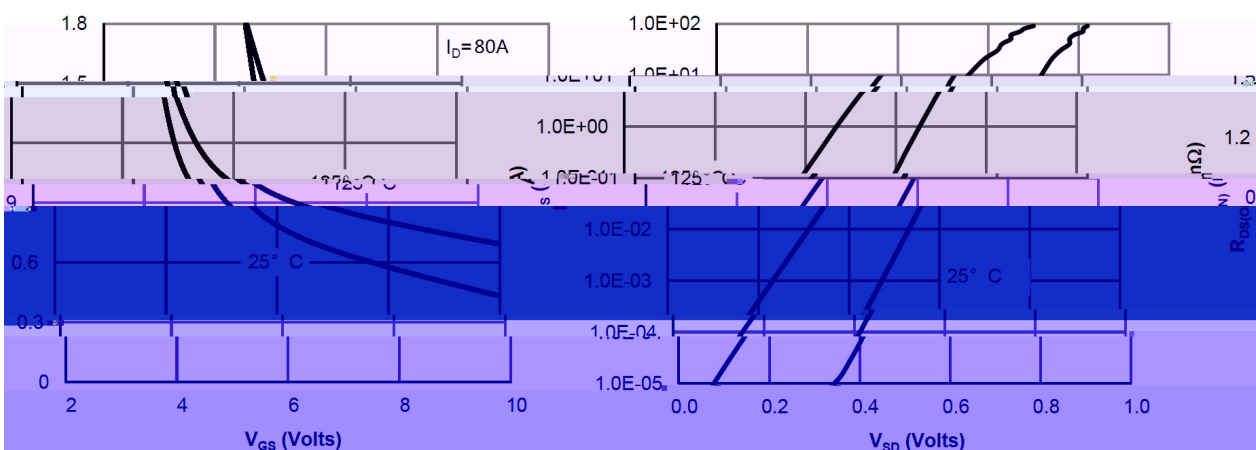


Figure 5: On-Resistance vs. Gate-Source Voltage

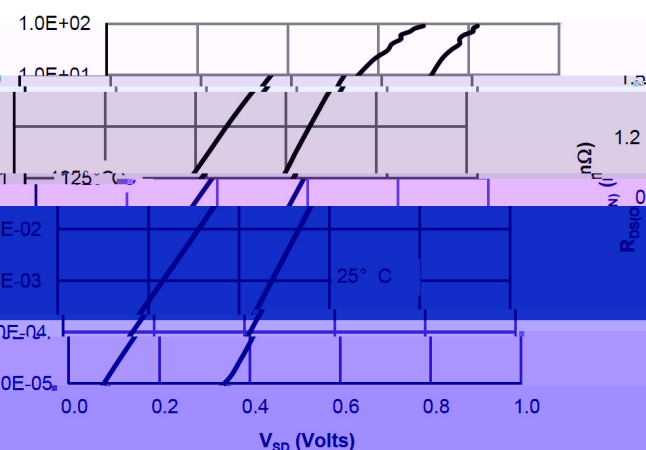
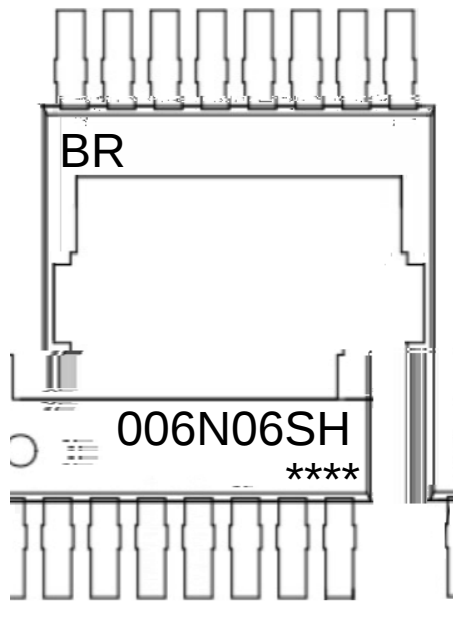


Figure 6: Body-Diode Characteristics



BR

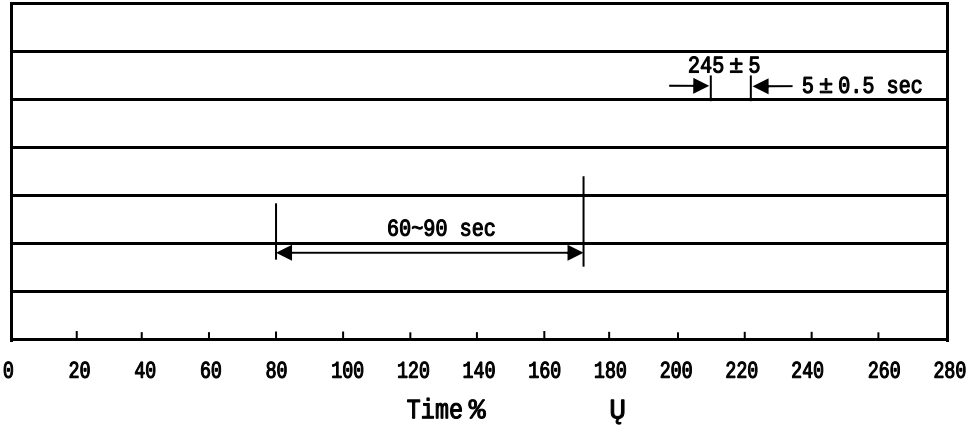
006N06SH

Note:

BR: Company Code

006N06SH: Product Type Code

****: Lot No. Code, code change with Lot No.



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

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
TOLT-16L	1,300	1	1,300	4	5,200	13"×24	357×340×41	377×357×180

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