BRCS006N06SHTP

Rev.A Mar.-2026

DATA SHEET

/ Descriptions

TOLT-16L N

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

/ Features

V_{DS}(V)=60V I_D=650A

$R_{DS(ON)}$@10V≤0.6mΩ(Typ. 0.45 mΩ)

$R_{DS(ON)}$@6V≤1.2mΩ(Typ. 0.78 mΩ)

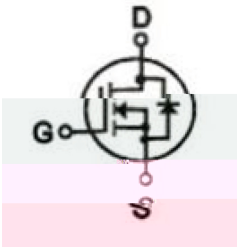
HF Product.

/ Applications

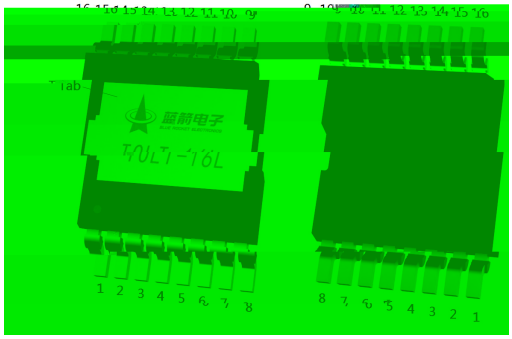
BMS

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

/ Equivalent Circuit



/ Pinning



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

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(T_A=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Drain Current(DC)	I_D(T_C=25)	650	A
	I_D(T_C=100)	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**	$R_{\theta JA}$	50	/ W
Thermal resistance, junction – case**	$R_{\theta JC}$	0.32	

Notes:
* Pulse width ≤ 300 μs, duty cycle ≤ 2 %
** Surface Mounted on minimum footprint pad area
*** Limited by bonding wire

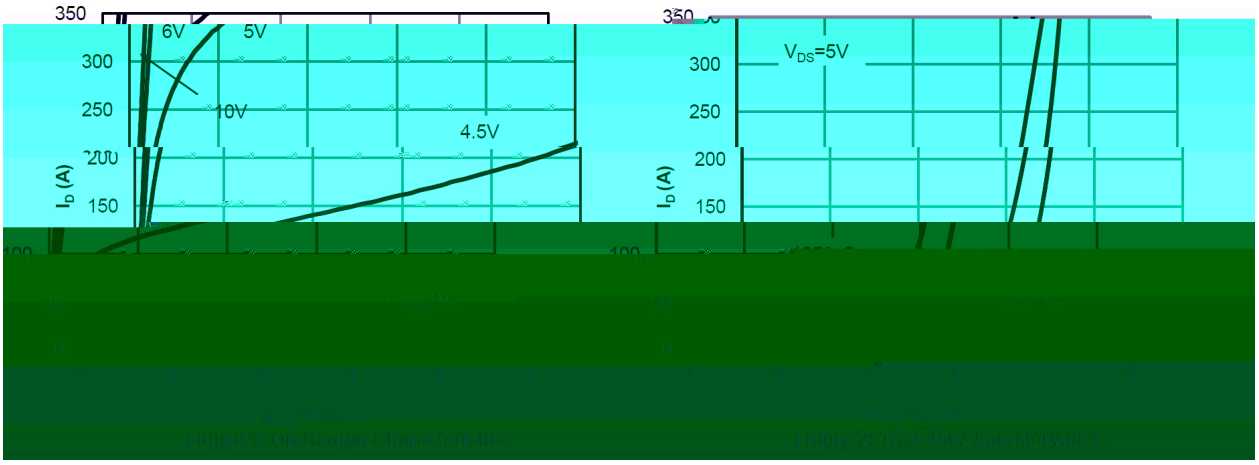
/ Electrical Characteristics(T_A=25)

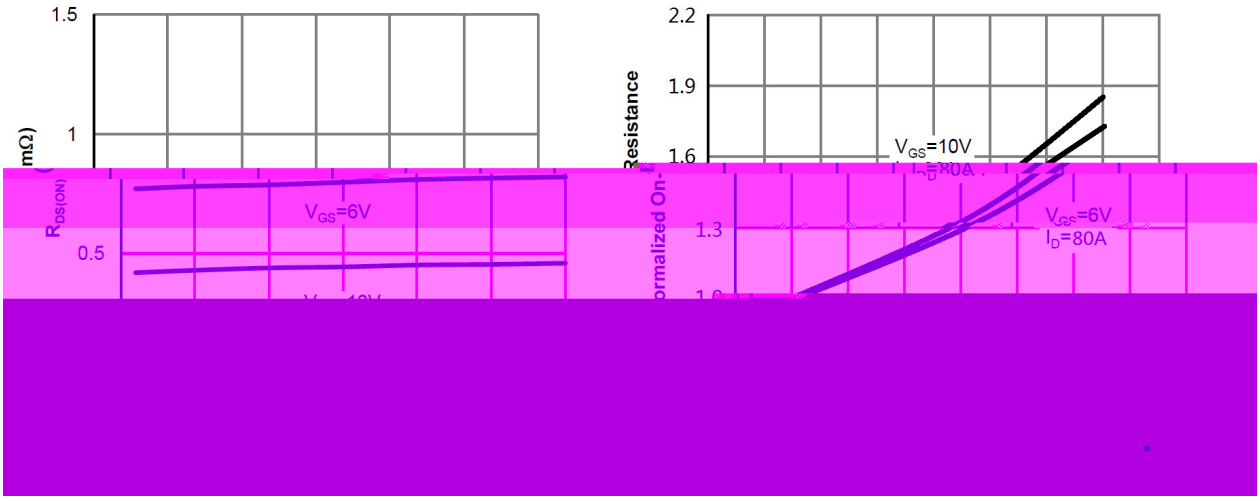
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=48V, V_{GS}=0V			1	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	2		4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=80A		0.45	0.6	mΩ
		V_{GS}=6V, I_D=80A		0.78	1.2	mΩ
Diode Forward Voltage	V_{SD}	I_S=5A, V_{GS}=0V			1.3	V
Reverse Recovery Time	t_{rr}	I_D = 50 A, V_{DS} =30 V dI$_{SD}$/dt = 100 A/μs		69		nS
Reverse Recovery Charge	Q_{rr}			116		nC
Gate resistance	R_g	V_{DS}=0V, V_{GS}=0V f=1.0MHz		2.4		Ω
Input Capacitance	C_{iss}	V_{DS}=30V V_{GS}=0V f=1.0MHz		12610		pF
Output Capacitance	C_{oss}			4650		
Reverse Transfer Capacitance	C_{rss}			1250		

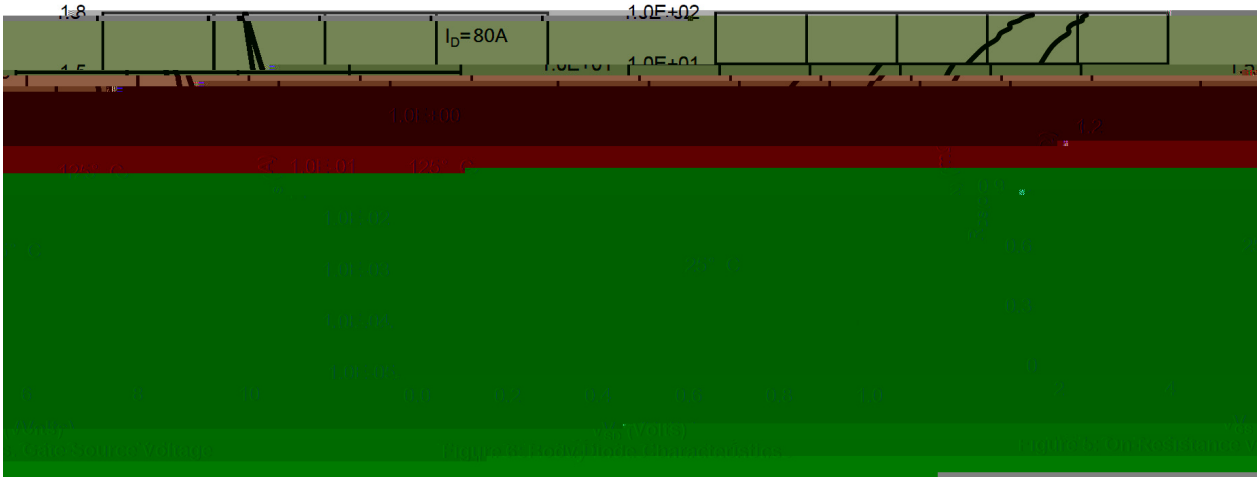
/ Electrical Characteristics(T_A=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	V_{GS}=10V, 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 V_{DS}=30V R_G=3Ω 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		

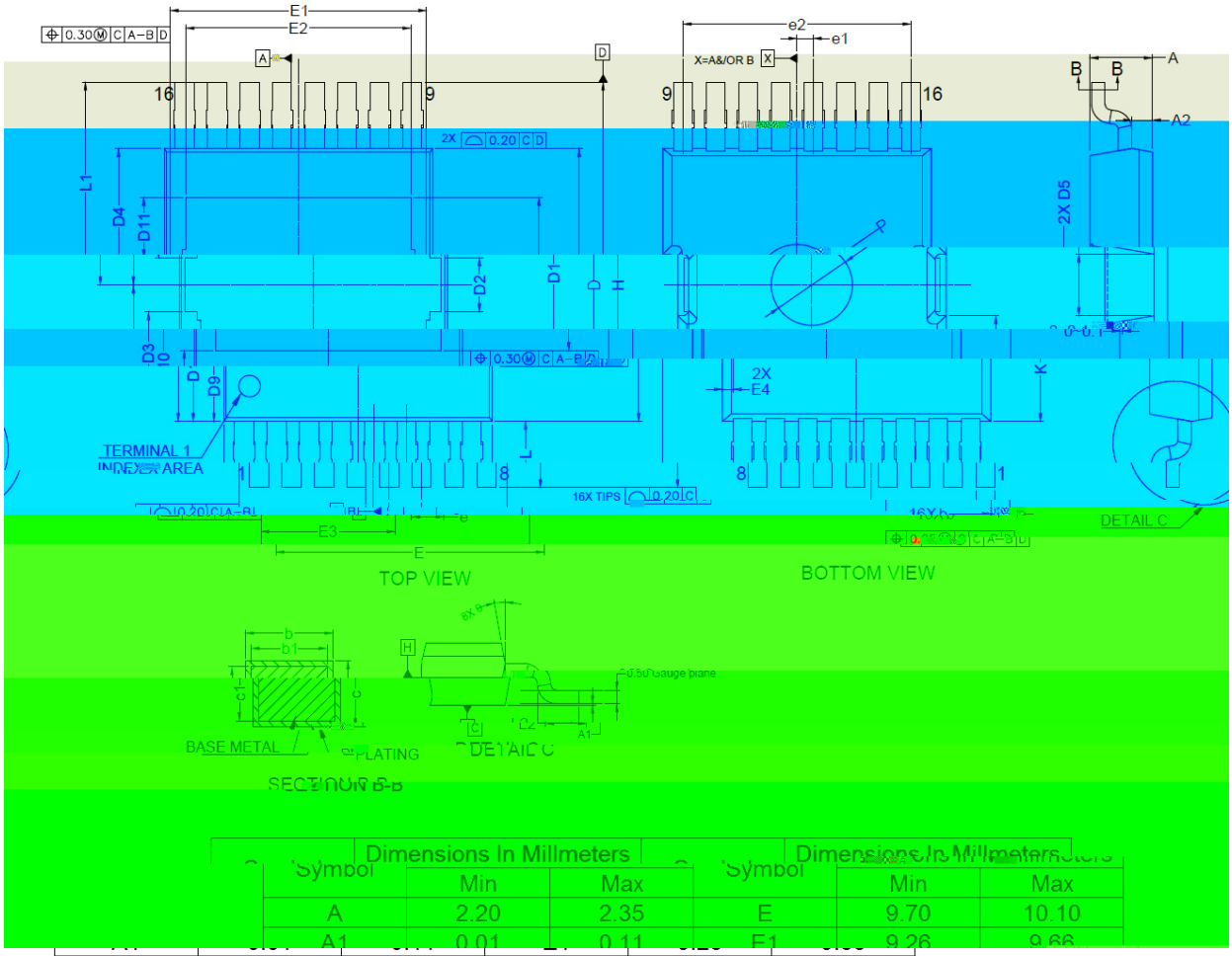
/ Electrical Characteristic Curve





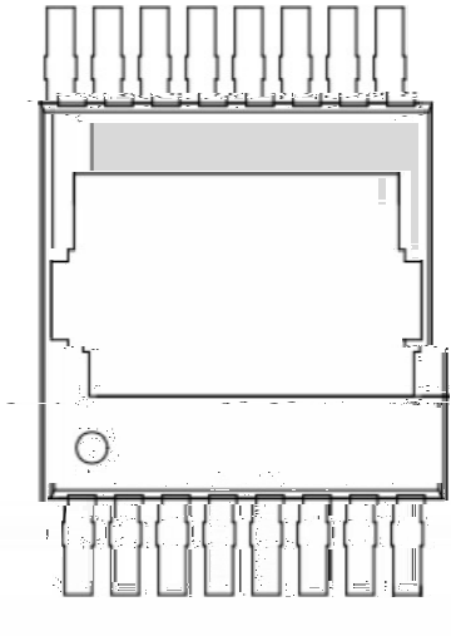


/ Package Dimensions



Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
A	2.20	2.35	E	9.70	10.10
A1	0.01	0.11	E1	9.26	9.66
A2	0.56	0.96	E2	8.10	8.50
b	0.60	0.85	E3	4.75	5.15
b1	0.60	0.80	E4	0.20	0.60
c	0.45	0.60	e1	0.60 BSC	
c1	0.45	0.60	e2	8.40 BSC	
D	10.00	10.30	H	14.80	15.20
D1	5.47	5.87	K	3.71	4.11
D2	1.80	2.20	L	2.25	2.65
D3	4.85	5.25	L1	1.60 REF	
D4	2.68 REF		L2	0.25 BSC	
D5	2.08	2.48	L3	1.30	1.70
D9	2.42	2.82	R	0.07	-
D10	3.85	4.25	P	2.90	3.10
D11	2.04	2.44	θ	4°	10°

/ Marking Instructions



BR

006N06SH

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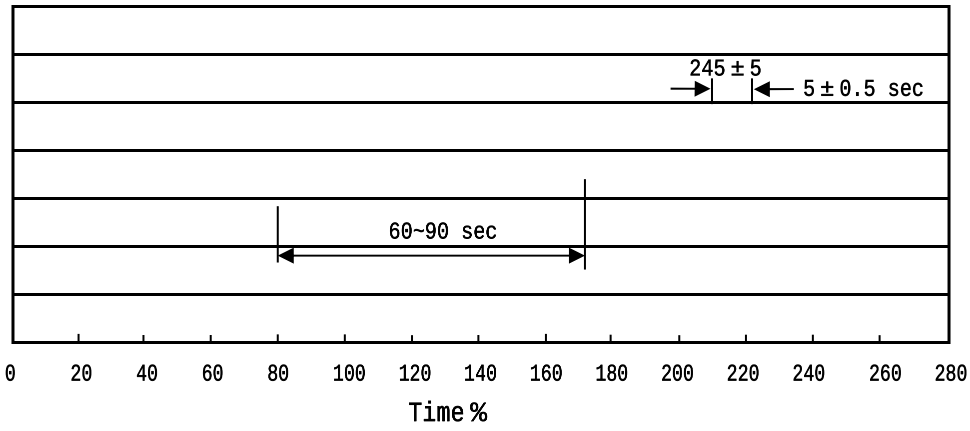
Note:

BR: Company Code

006N06SH: Product T

( ) / 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.

/ 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
TOLT-16L	1,300	1	1,300	4	5,200	13''×24	357×340×41	377×357×180

/ Notices

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