

# BRCs006N06SHTP

Rev.A Mar.-2026

## / Descriptions

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

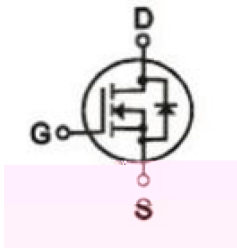
## / Features

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

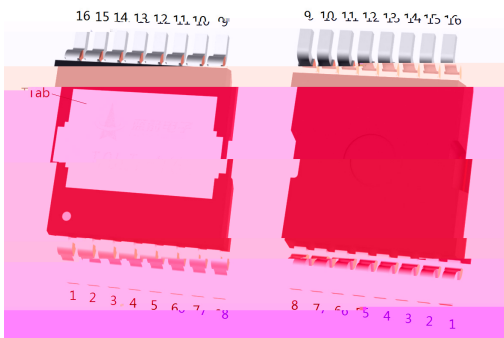
## / Applications

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 <sup>*,**</sup>	$I_{DM}$	2054	A
Gate-Source Voltage	$V_{GS}$	$\pm 20$	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 <sup>**</sup>	$R_{JA}$	50	/ W
Thermal resistance, junction – case <sup>**</sup>	$R_{JC}$	0.32	

Notes:

\* Pulse width 300  $\mu$ s, duty cycle 2 %<sup>\*\*</sup> Surface Mounted on minimum footprint pad area<sup>\*\*\*</sup> Limited by bonding wire/ Electrical Characteristics( $T_A=25$  )

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$I_D=250\mu A, V_{GS}=0V$	60			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=48V, V_{GS}=0V$			1	$\mu A$
Gate-Body leakage current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2		4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=80A$		0.45	0.6	m
		$V_{GS}=6V, I_D=80A$		0.78	1.2	m
Diode Forward Voltage	$V_{SD}$	$I_S=5A, V_{GS}=0V$			1.3	V
Reverse Recovery Time	$t_{rr}$	$I_D = 50 A, V_{DS} = 30 V$ $dI_{SD}/dt = 100 A/\mu s$		69		nS
Reverse Recovery Charge	$Q_{rr}$			116		nC
Gate resistance	$R_g$	$V_{DS}=0V, V_{GS}=0V$ $f=1.0MHz$		2.4		
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<sub>A</sub>=25 )**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> =10V, V <sub>DS</sub> =30V I <sub>DS</sub> =50A		214		nC
Gate Source Charge	Q <sub>gs</sub>			41		
Gate Drain Charge	Q <sub>gd</sub>			54		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>GS</sub> =10V V <sub>DS</sub> =30V R <sub>G</sub> =3 I <sub>D</sub> =50A		36.7		ns
Turn-On Rise Time	t <sub>r</sub>			173		
Turn-Off Delay Time	t <sub>d(off)</sub>			135		
Turn-Off Fall Time	t <sub>f</sub>			92.8		

/ Electrical Characteristic Curve

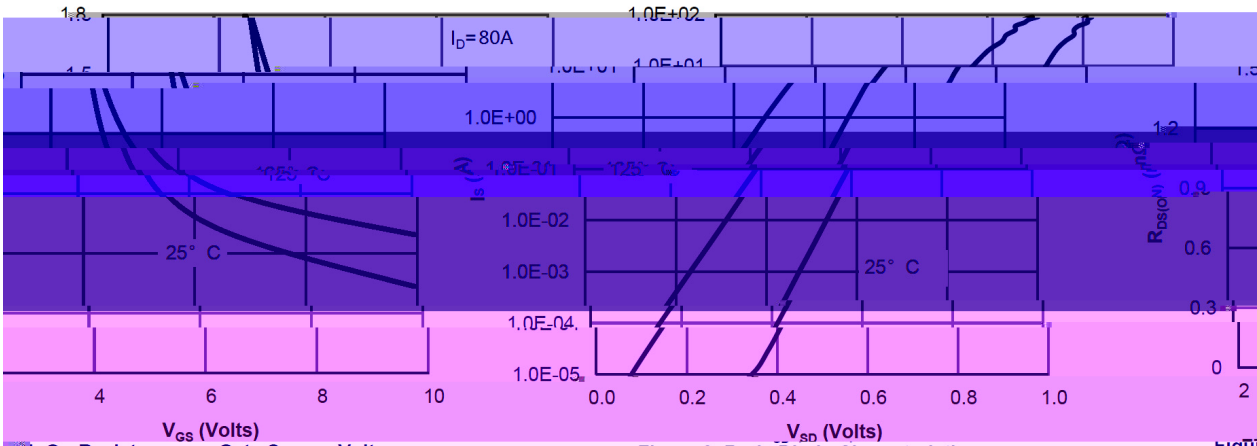
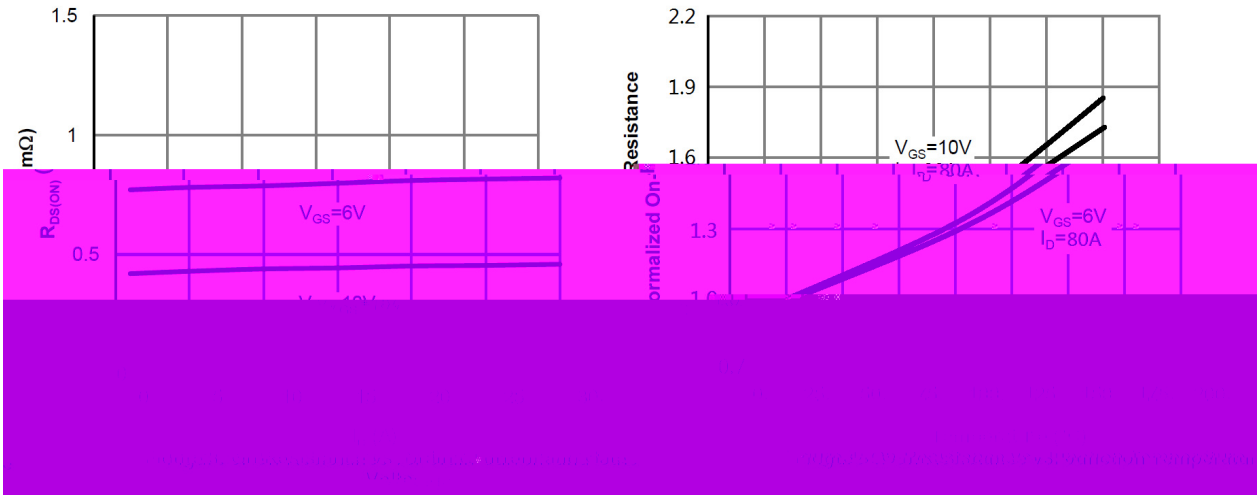
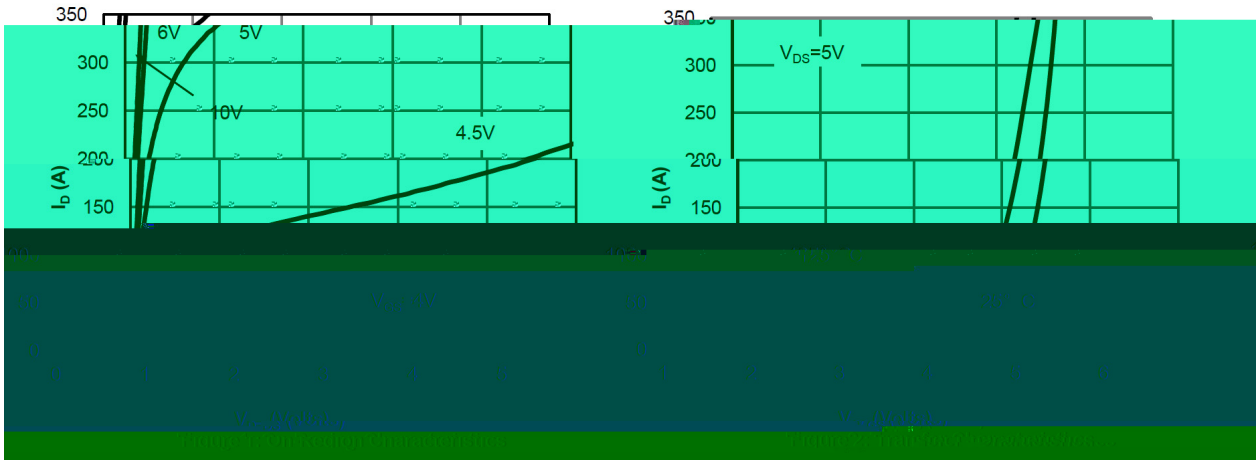


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

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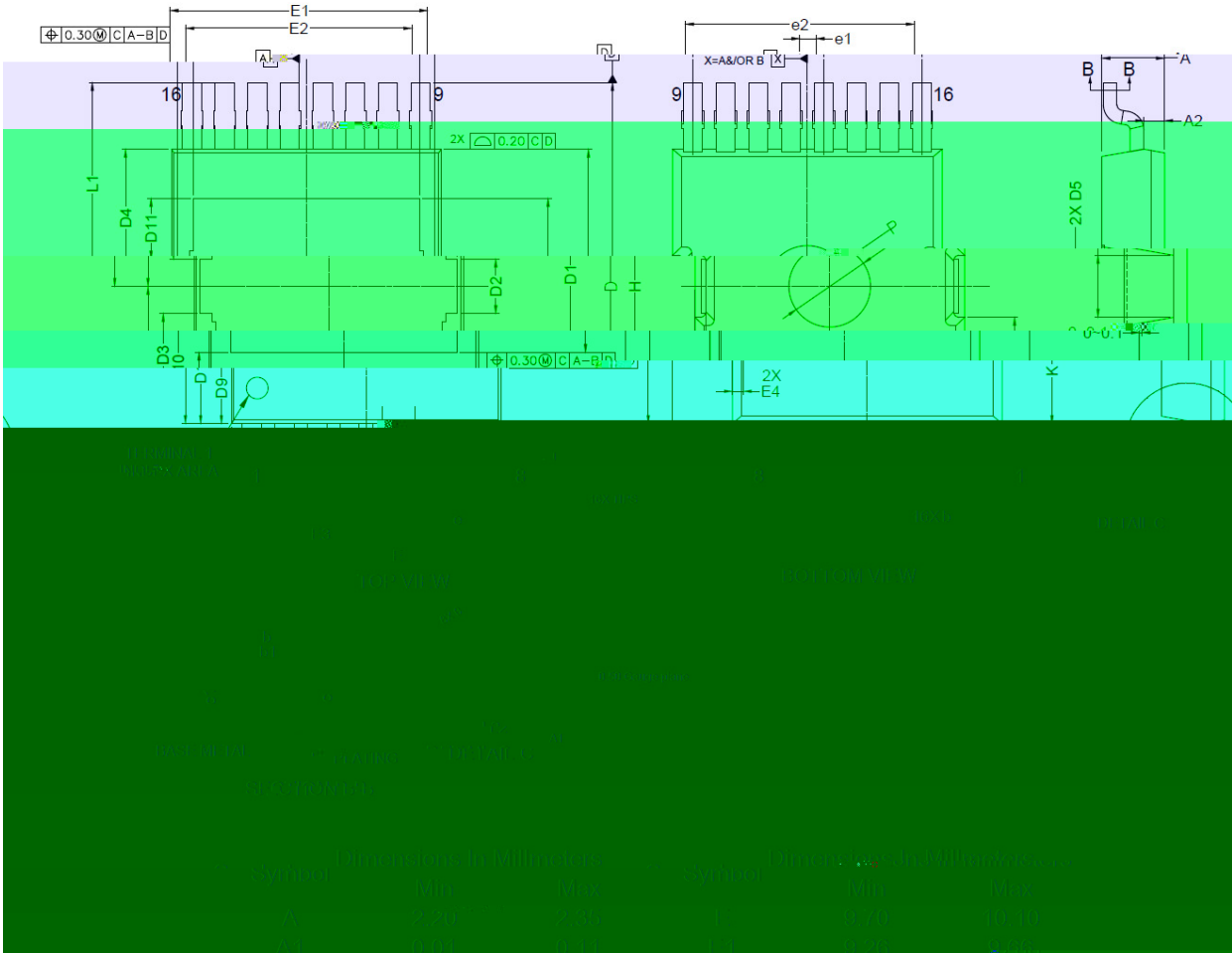
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**蓝箭电子**  
BLUE ROCKET ELECTRONICS

DATA SHEET

**/ Package Dimensions**

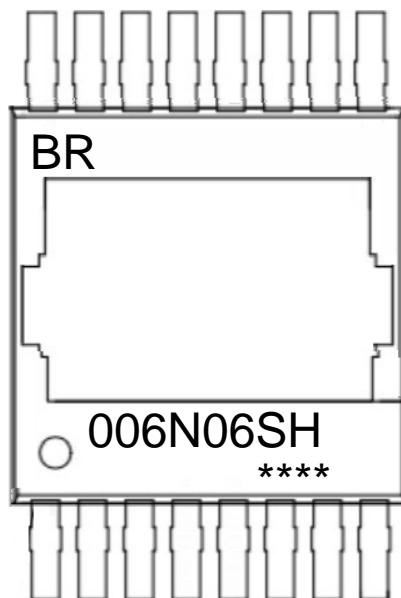


A2	0.56	0.96	E2	8.10	8.50
b	0.60	0.85	E3	4.75	5.15
h1	0.60	0.80	E4	0.30	0.60

8.40 BSC	
14.80	15.20
3.71	4.11
2.25	2.65
7.30	7.70
1.30	1.70
0.07	-
2.90	3.10
4°	10°

D	10.00	10.30	e2
D1	5.47	5.87	H
D2	1.80	2.20	K
D3	4.85	5.25	L
D4	5.00	5.13	L1
D5	2.08	2.48	L2
D9	2.42	2.82	R
D10	3.85	4.25	P
D11	2.04	2.44	θ

**/ Marking Instructions**



BR

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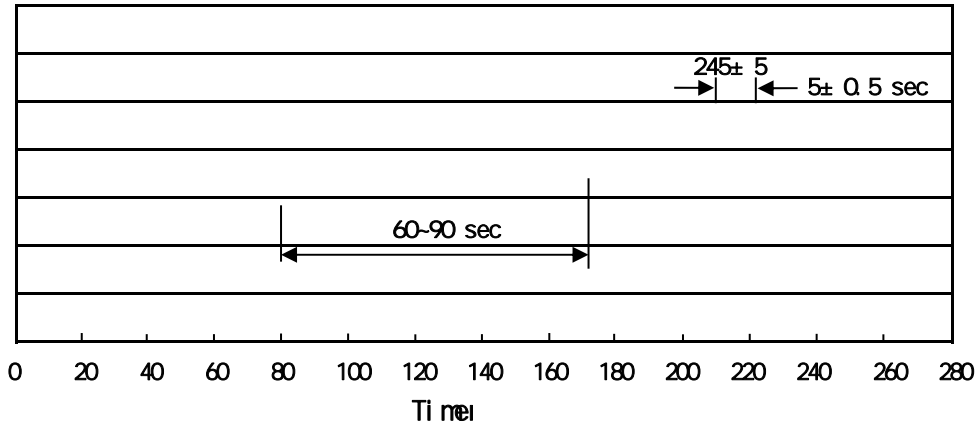
Note:

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.

**/ 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 mm <sup>3</sup> )		
	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"x24	357x340x41	377x357x180

**/ Notices**

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