



# BRCS012N10SHTP

Rev.A Jul.-2025



蓝箭电子  
BLUE ROCKET ELECTRONICS

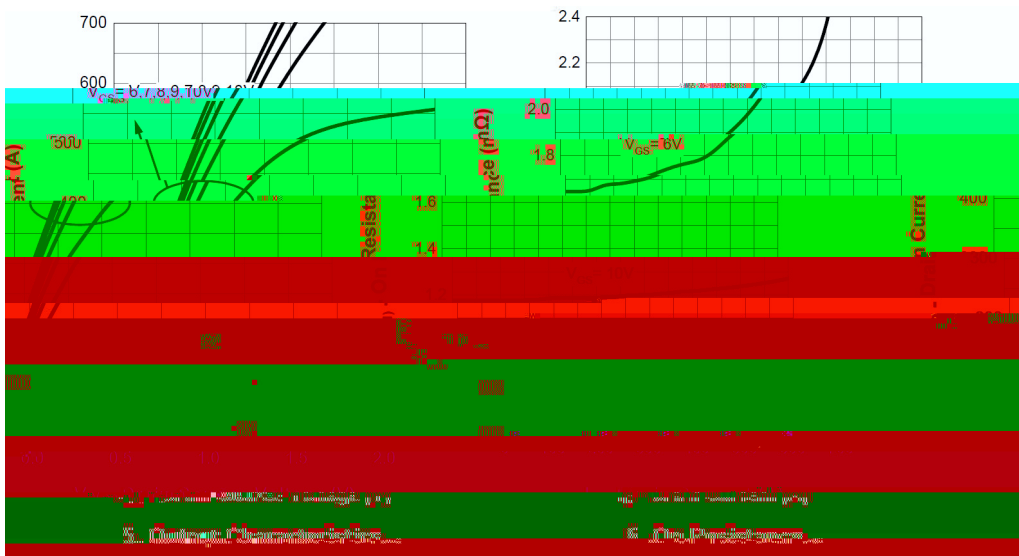
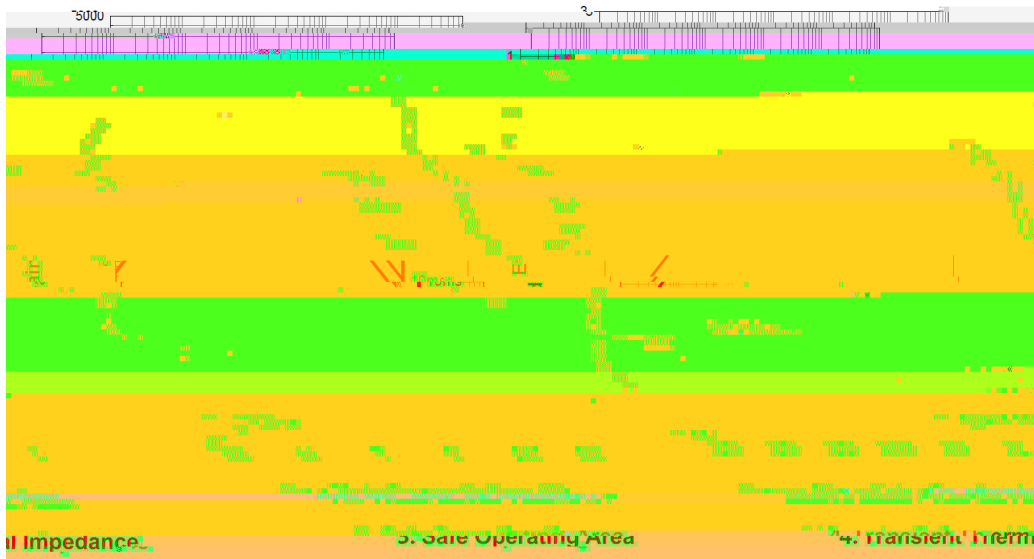
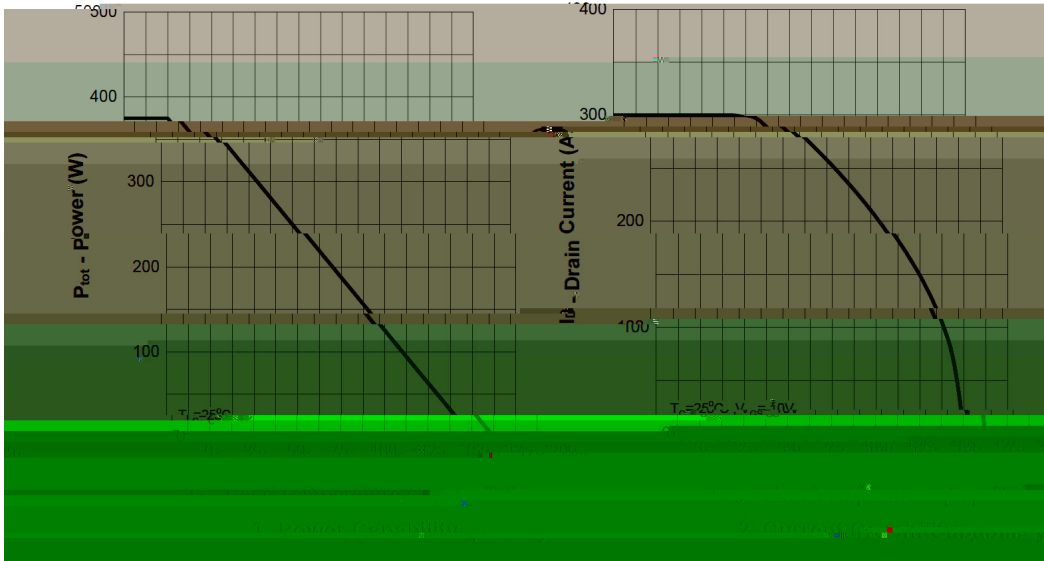
DATA SHEET

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	100	V
Drain Current(DC)	$I_D(T_C=25^\circ\text{C})$	300	A
	$I_D(T_C=100^\circ\text{C})$	258	A
Drain Current – Pulsed <sup>*,**</sup>	$I_{DM}$	1200	A
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Power Dissipation	$P_{tot}$	375	W
Continuous-Source Current	$I_S$	300	A
Single Pulse Avalanche Energy( $V_{DD}=50V, L=1.0mH$ )	$E_{AS}$	2450	mJ
Junction and Storage Temperature Range	$T_j, T_{stg}$	-55 to 175	
Thermal resistance, junction – ambient <sup>**</sup>	$R_{JA}$	52	

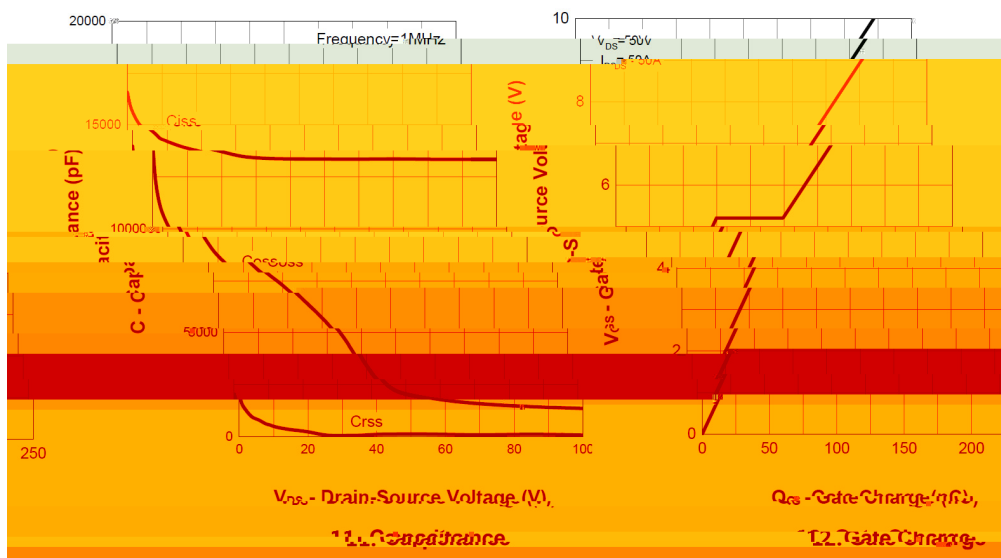
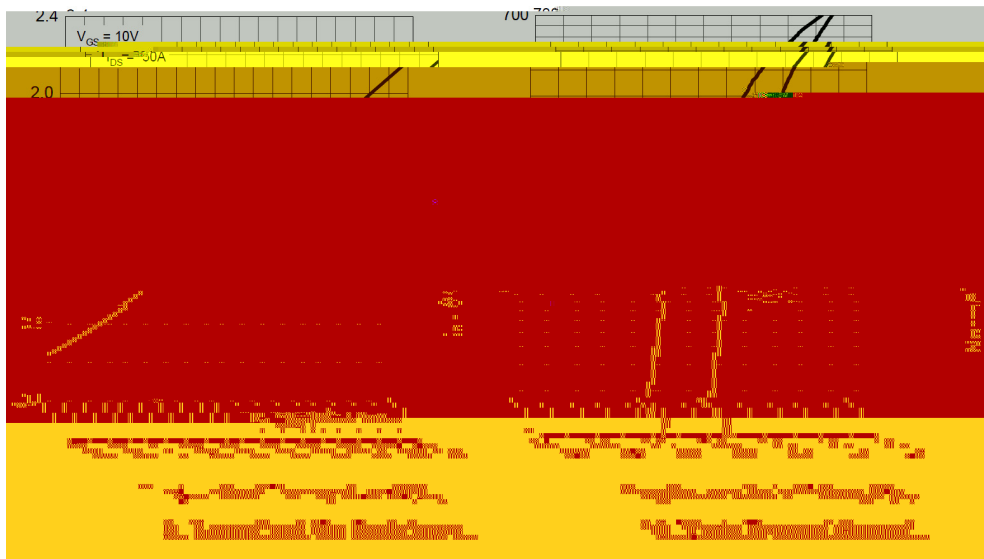
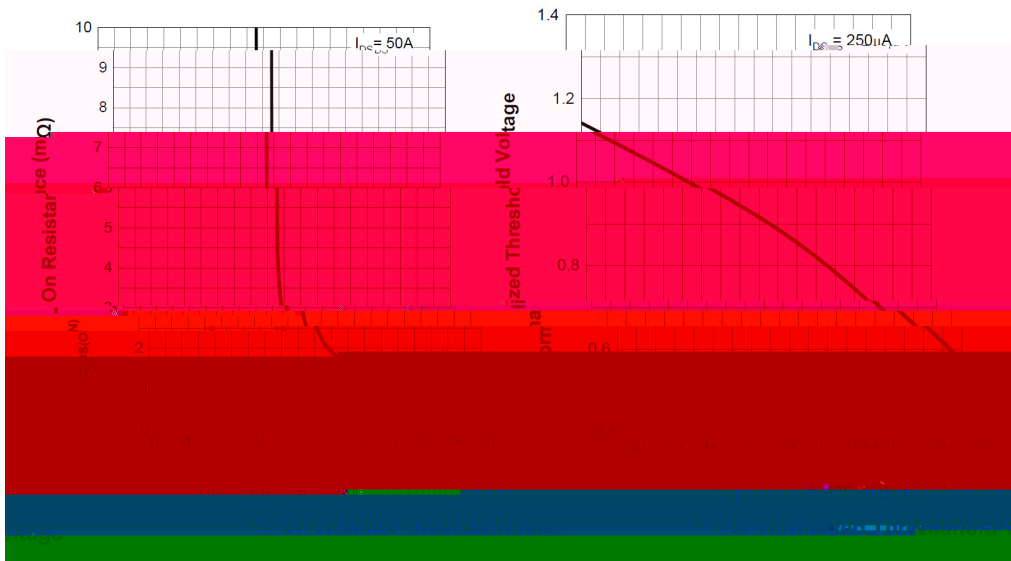
## / Electrical Characteristics(T<sub>A</sub>=25 )

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> =10V, V <sub>DS</sub> =50V I <sub>DS</sub> =50A		222		nC
Gate Source Charge	Q <sub>gs</sub>			75		
Gate Drain Charge	Q <sub>gd</sub>			49		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>GS</sub> =10V V <sub>DS</sub> =50V R <sub>G</sub> =3.9 R <sub>L</sub> =1 I <sub>D</sub> =50A		41		ns
Turn-On Rise Time	t <sub>r</sub>			116		
Turn-Off Delay Time	t <sub>d(off)</sub>			137		
Turn-Off Fall Time	t <sub>f</sub>			80		

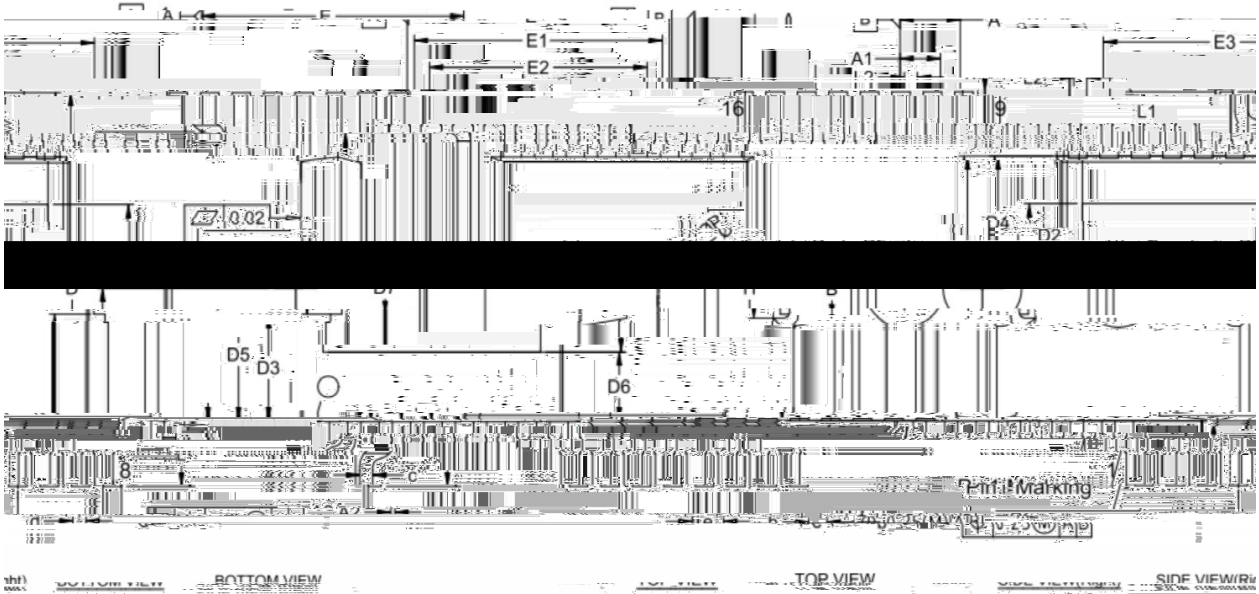
**/ Electrical Characteristic Curve**



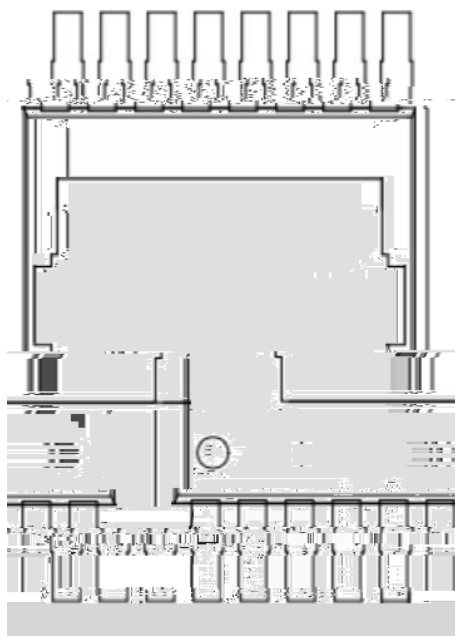
/ Electrical Characteristic Curve



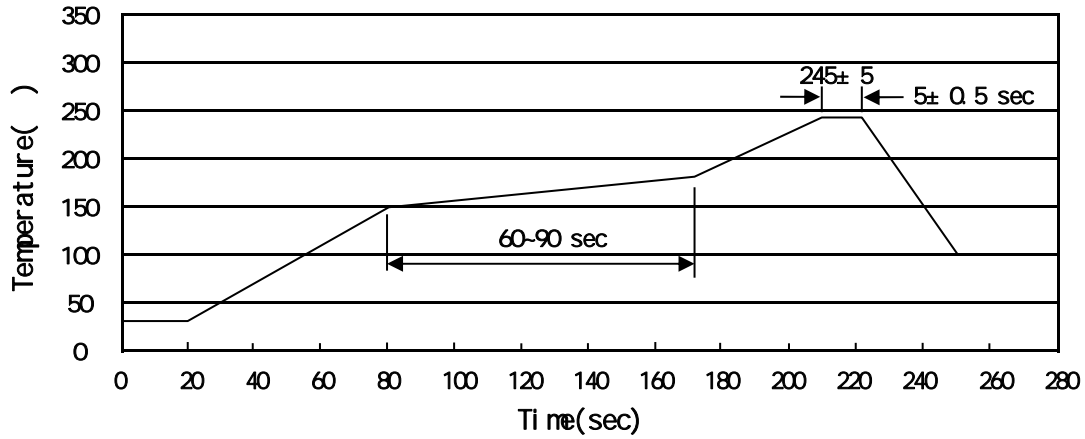
**/ Package Dimensions**



Symbol	Dimensions In Millimeters			Symbol	Dimensions In Millimeters		
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.
A	2.250	2.300	2.350	E	9.700	10.000	10.100



**( ) / 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±0.5 | sec;     | 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	2,000	1	2,000	TBD	TBD	TBD	TBD	TBD

**/ Notices**

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