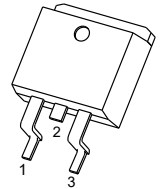


**TO-263-2L Plastic-Encapsulate MOSFETS****CJB40N20 N-Channel Power MOSFET**

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
200V	36.4mΩ@10V	40A

DESCRIPTION

The CJB40N20 uses advanced trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. It can be used in a wide variety of applications

TO-263-2L

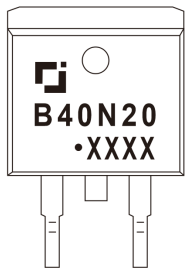
1. GATE
2. DRAIN
3. SOURCE

FEATURES

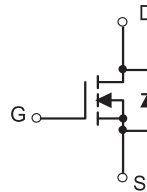
- Low $R_{DS(on)}$
- Low Gate Charge

APPLICATIONS

- High efficiency power supply
- Secondary synchronus rectifier

MARKING

B40N20= Device code
Solid dot = Green molding compound device,
if none, the normal device
XXXX= Code

EQUIVALENT CIRCUIT**ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)**

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	200	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	40	A
Pulsed Drain Current ⁽¹⁾	I_{DM}	160	
Maximum Power Dissipation ⁽⁴⁾	P_D	192	W
Avalanche energy*	E_{AS}	480	mJ
Thermal Resistance from Junction to Case	$R_{\theta JC}$	0.65	$^\circ\text{C/W}$
Thermal Resistance from Junction to Ambient ⁽³⁾	$R_{\theta JA}$	62	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	

* EAS test condition $V_{DD}=50\text{V}$, $R_G=25\ \Omega$, $L=0.5\ \text{mH}$, starting $T_J=25\ ^\circ\text{C}$.

MOSFET ELECTRICAL CHARACTERISTICS

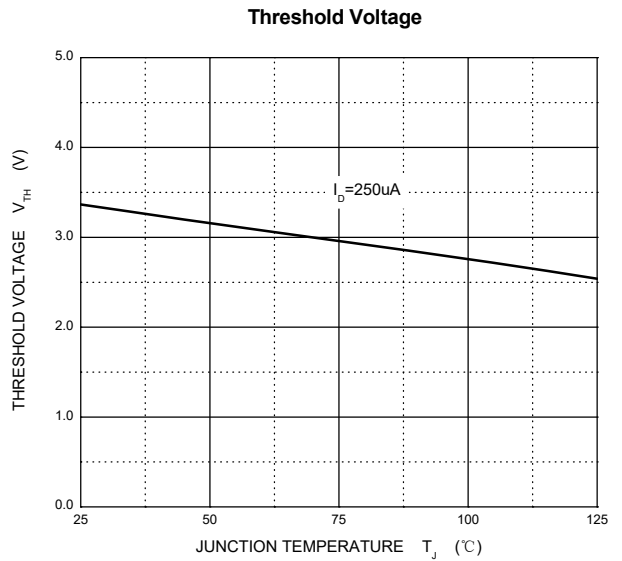
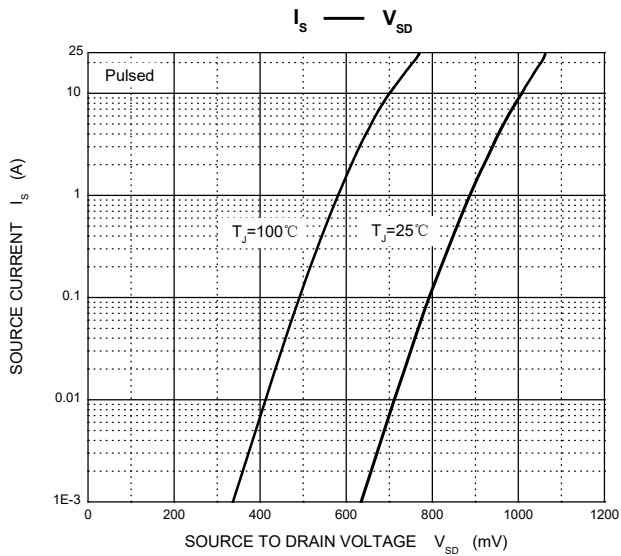
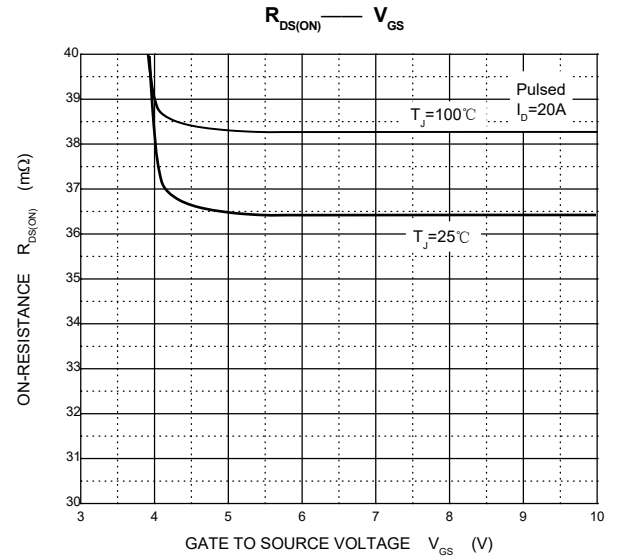
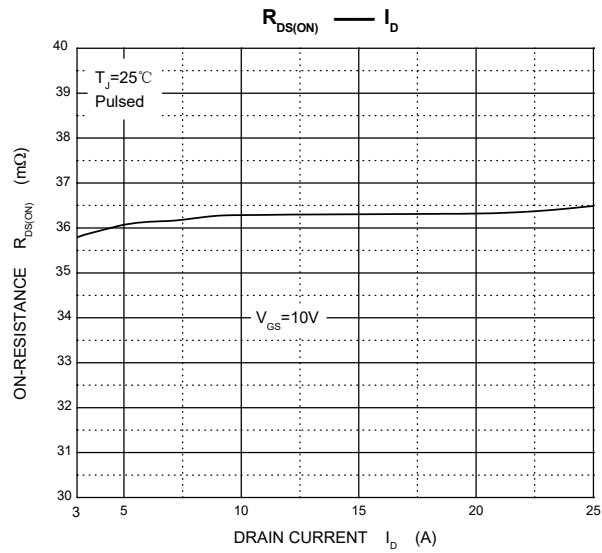
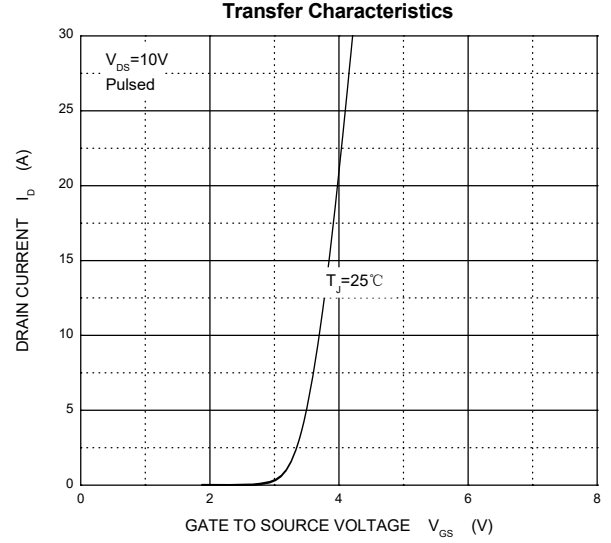
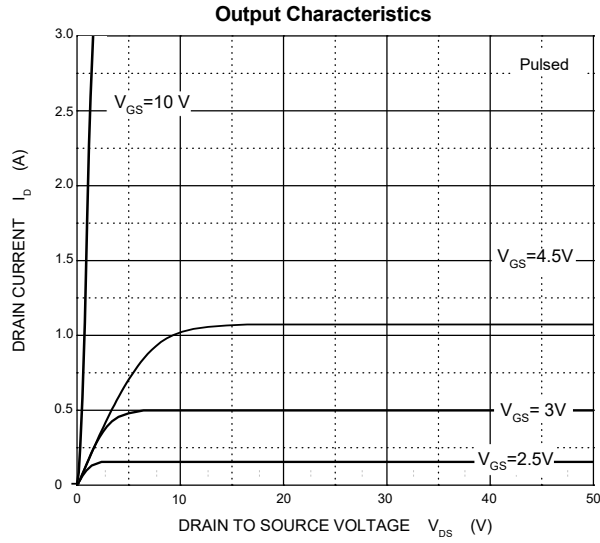
$T_a=25\text{ }^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	200			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =200V,V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±20V, V _{DS} = 0V			±100	nA
Gate threshold voltage ⁽¹⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2.0	3.2	4.0	V
Drain-source on-resistance ⁽¹⁾	R _{DS(on)}	V _{GS} =10V, I _D =20A		36.4	41	mΩ
Dynamic characteristics ⁽²⁾						
Total gate charge	Q _g	V _{DS} =30V,V _{GS} =30V,I _D =10A		163		nC
Gate-source charge	Q _{gs}			31		
Gate-drain charge	Q _{gd}			64		
Input Capacitance	C _{iss}	V _{DS} =25V,V _{GS} =0V,f =1MHz		6500		pF
Output Capacitance	C _{oss}			290		
Reverse Transfer Capacitance	C _{rss}			220		
SWITCHING PARAMETERS ⁽²⁾						
Turn-on delay time	t _{d(on)}	V _{GS} =10V, V _{DS} =30V, R _G =2.5Ω, I _D =2A		26		ns
Turn-on rise time	t _r			24		
Turn-off delay time	t _{d(off)}			91		
Turn-off fall time	t _f			39		
Source-Drain Diode characteristics ⁽¹⁾						
Body diode voltage	V _{SD}	I _S =40A,V _{GS} =0V			1.2	V

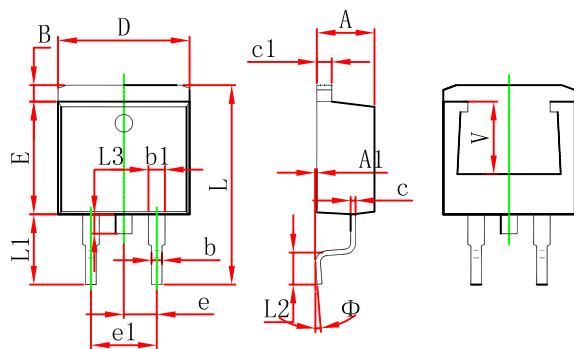
Notes:

1. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 0.5\%$.
2. Guaranteed by design, not subject to production testing.
3. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 1.5oz. Copper, in a still air environment with $T_a = 25\text{ }^{\circ}\text{C}$.
4. Pd is based on max. junction temperature, using junction-case thermal resistance.

Typical Characteristics

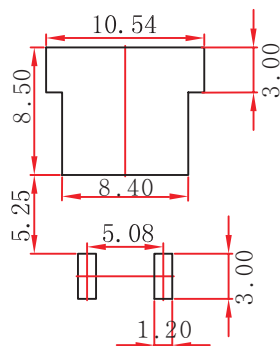


TO-263-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.470	4.670	0.176	0.184
A1	0.000	0.150	0.000	0.006
B	1.120	1.420	0.044	0.056
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
e	2.540 TYP.		0.100 TYP.	
e1	4.980	5.180	0.196	0.204
L	14.940	15.500	0.588	0.610
L1	4.950	5.450	0.195	0.215
L2	2.340	2.740	0.092	0.108
L3	1.300	1.700	0.051	0.067
Φ	0°	8°	0°	8°
V	5.600 REF.		0.220 REF.	

TO-263-2L Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.