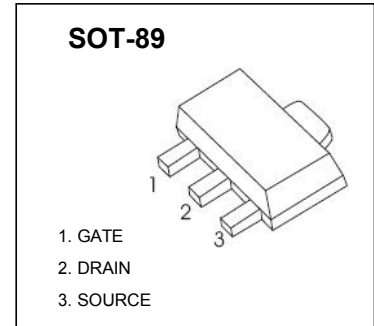


Plastic-Encapsulate MOSFETS

N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
100 V	140mΩ@ 10V	3A



DESCRIPTION

The CJA03N10 uses advanced trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. This device is suitable for use in a wide variety of applications.

FEATURES

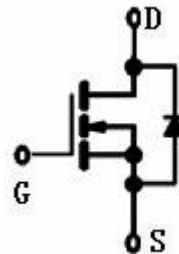
- Lead free product is acquired
- Special process technology for high ESD capability
- High density cell design for ultra low $R_{DS(on)}$
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation

APPLICATION

- Power switching application
- Hard switching and high frequency circuits
- Uninterruptible power supply

MARKING:A03N10

Equivalent Circuit



Maximum ratings ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	3	A
Pulsed Drain Current (note 1)	I_{DM}	20	A
Power Dissipation	P_D	0.5	W
Thermal Resistance from Junction to Ambient (note 2)	$R_{\theta JA}$	250	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}C$

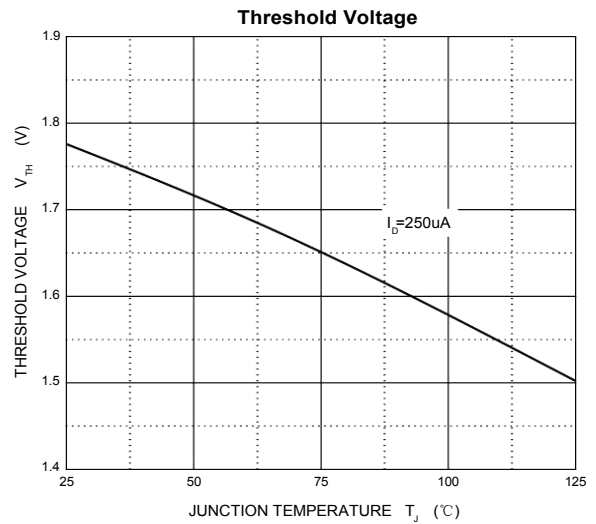
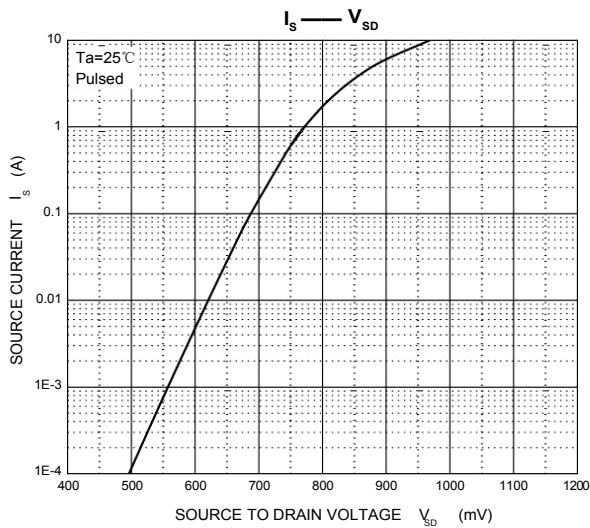
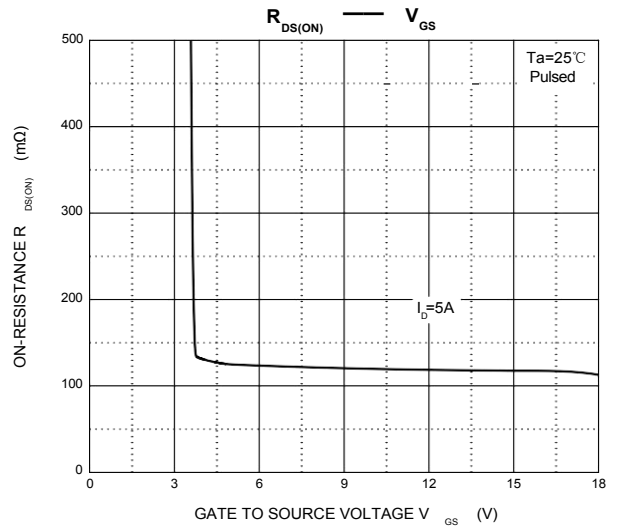
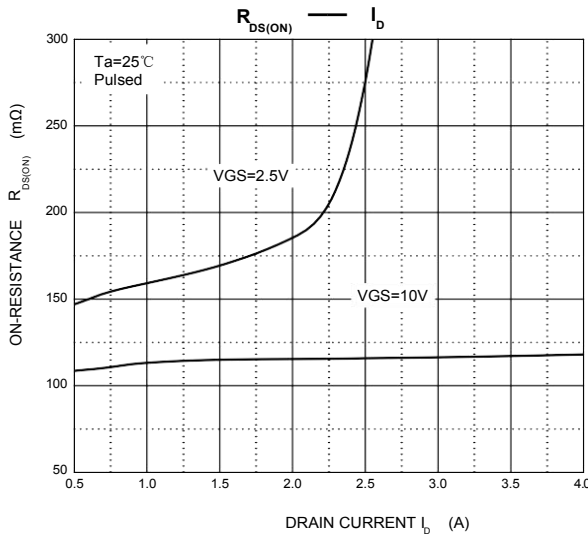
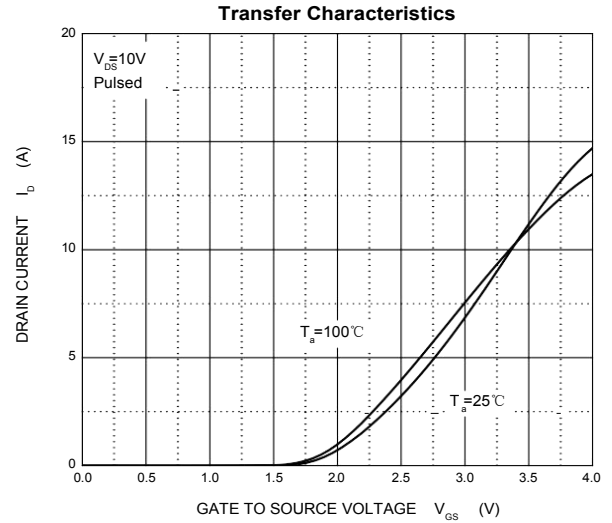
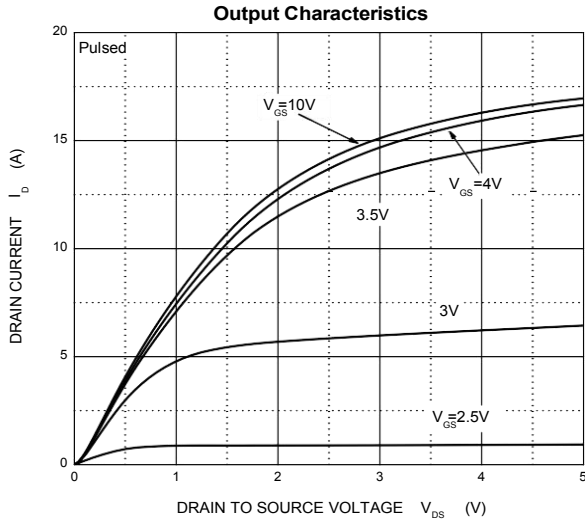
BCA03N10 MOSFET ELECTRICAL CHARACTERISTICS

T_a=25 °C unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	100			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = 100V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			± 100	nA
Gate threshold voltage (note 3)	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1		2	V
Drain-source on-resistance (note 3)	R _{DS(on)}	V _{GS} = 10V, I _D = 5A			140	mΩ
Forward transconductance (note 3)	g _{FS}	V _{DS} = 5V, I _D = 2.9A	3			S
Diode forward voltage (note 3)	V _{SD}	I _S = 3A, V _{GS} = 0V			1.2	V
DYNAMIC CHARACTERISTICS (note 4)						
Input capacitance	C _{iss}	V _{DS} = 25V, V _{GS} = 0V, f = 1MHz		690		pF
Output capacitance	C _{oss}			120		pF
Reverse transfer capacitance	C _{rss}			90		pF
SWITCHING CHARACTERISTICS (note 4)						
Turn-on delay time	t _{d(on)}	V _{GS} = 10V, V _{DS} = 30V, R _{GEN} = 2.5Ω, I _D = 2A, R _L = 15Ω		11		ns
Turn-on rise time	t _r			7.4		ns
Turn-off delay time	t _{d(off)}			35		ns
Turn-off fall time	t _f			9.1		ns
Total gate charge	Q _g	V _{DS} = 30V, V _{GS} = 10V, I _D = 3A		15.5		nC
Gate-source Charge	Q _{gs}			3.2		nC
Gate-drain Charge	Q _{gd}			4.7		nC

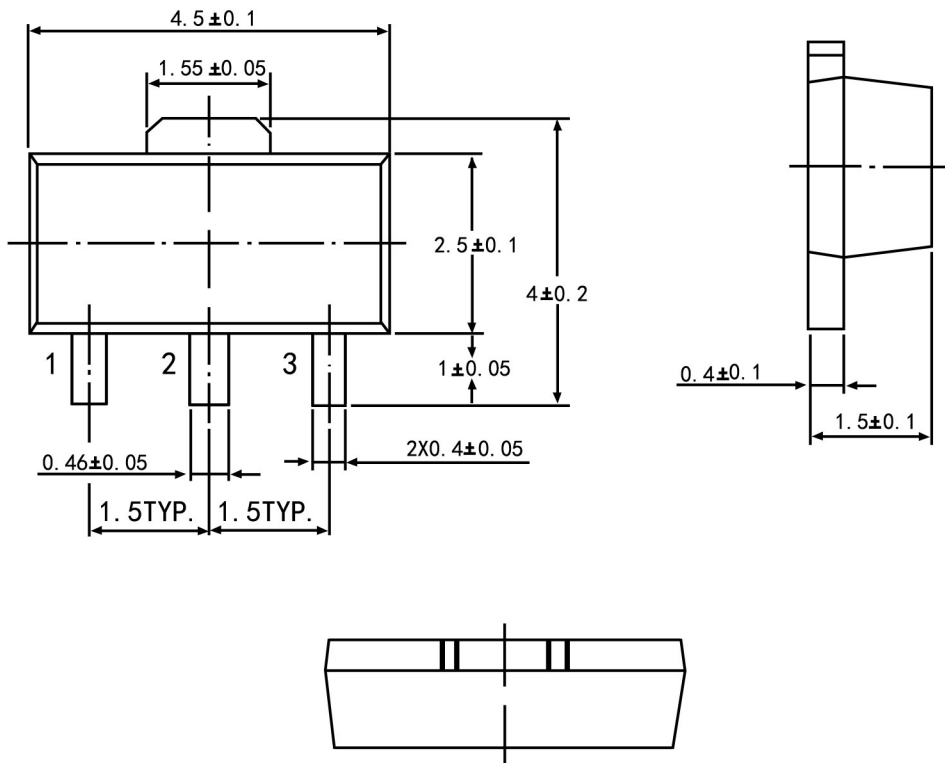
Notes :

1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board , t_s ≤ 10s.
3. Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to producing.





SOT-89 PACKAGE OUTLINE



Symbol	Dimension in Millimeters	
	Min	Max
A	1.40	1.60
B	0.44	0.62
B1	0.35	0.54
C	0.35	0.44
D	4.40	4.60
D1	1.62	1.83
E	2.29	2.60
e	1.50 Typ	
H	3.94	4.25
H1	2.63	2.93
L	0.89	1.20
All Dimensions In mm		