BRCS18N20DP

Rev.C Feb.-2026

DATA SHEET

/ Descriptions

N TO-252

N-Channel MOSFET in a TO-252 Plastic Package.

/ Features

V_{DS}=200V I_D=18A V_{GS}=±20V

$R_{DS(on)}$@10V，170mΩ(Type.130mΩ)

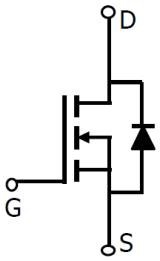
$R_{DS(on)}$@4.5V，200mΩ(Type.150mΩ)

HF Product.

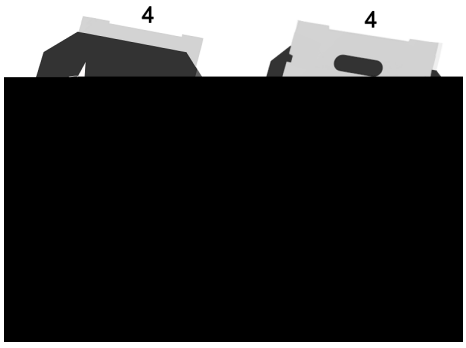
/ Applications

Networking,Load Switch,LED applications.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 4 D PIN 3 S

/ Marking

See Marking Instructions.

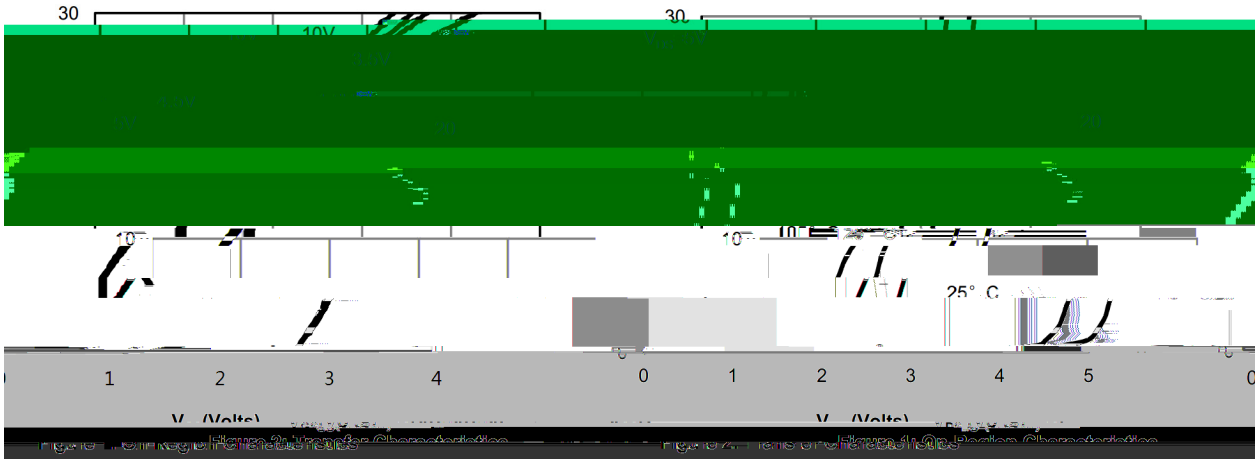
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	200	V
Drain Current		I_D(Tc=25)	18	A
Drain Current - Pulsed		I_{DM}	43	A
Gate-Source Voltage		V_{GS}	±20	V
Single Pulsed Avalanche Energy(L=10mH)		E_{AS}	125	mJ
Avalanche Current(L=10mH)		I_{AS}	9.5	A
Power Dissipation		P_D(Tc=25)	90	W
Operating and Storage Temperature Range		T_J,T_{STG}	-55 to 150	℃
Maximum Junction-to-Ambient	t 10s	$R_{đJA}$	20	℃/W
Maximum Junction-to-Ambient	Steady-State		50	
Maximum Junction-to-Case	Steady-State	$R_{đJC}$	1.39	

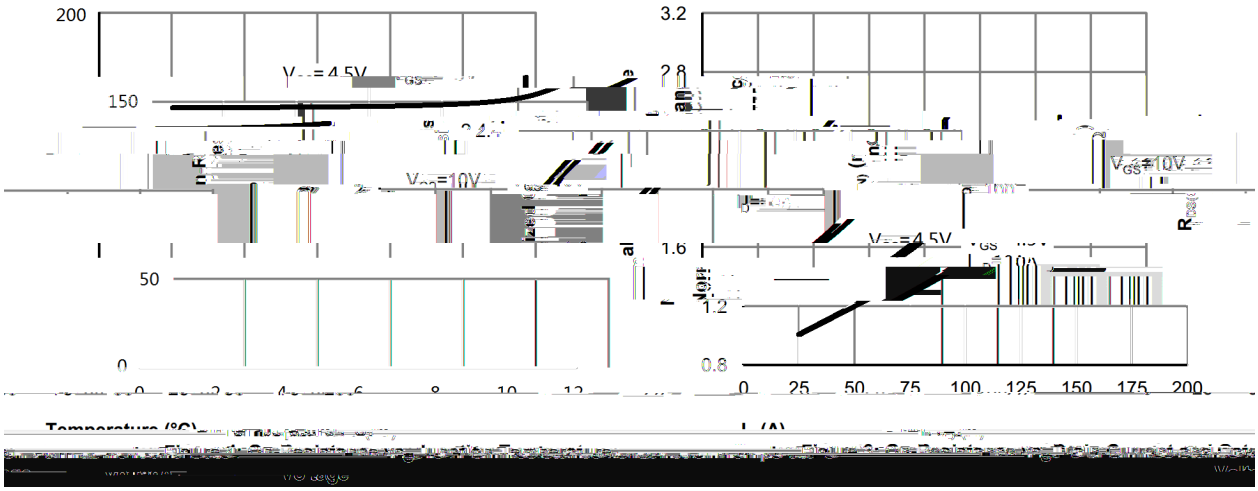
Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250εA	200			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=200V	V_{GS}=0V			1	εA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V	V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250εA	1.0	1.5	2.0	V
Total gate charge	$R_{DS(on)}$	V_{GS}=10V	I_D=10A		130	170	mq
		V_{GS}=4.5V	I_D=10A		150	200	mq
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_S=1A			1.2	V

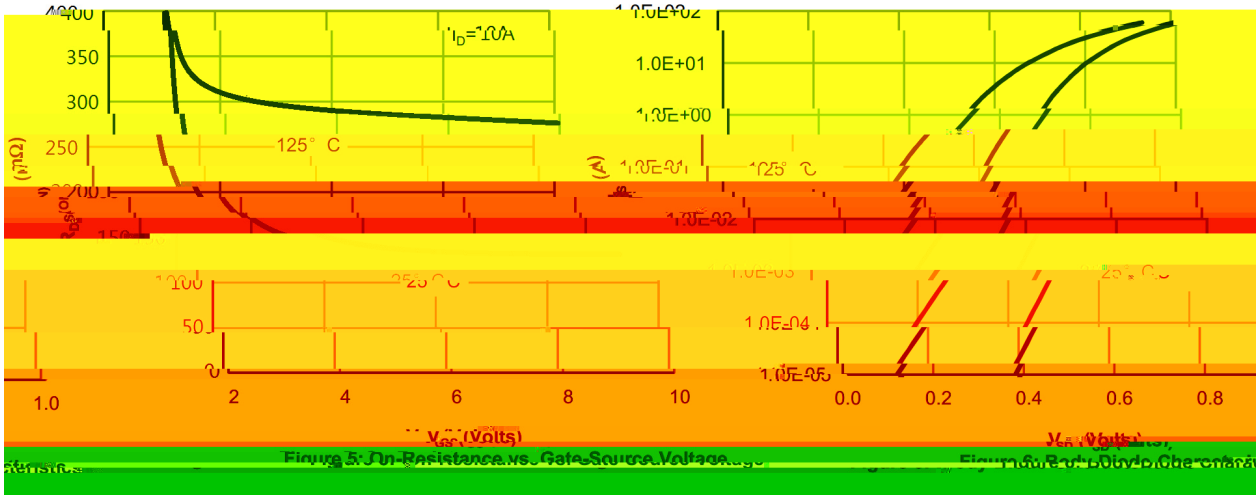
Gate resistance RForward

Parameter

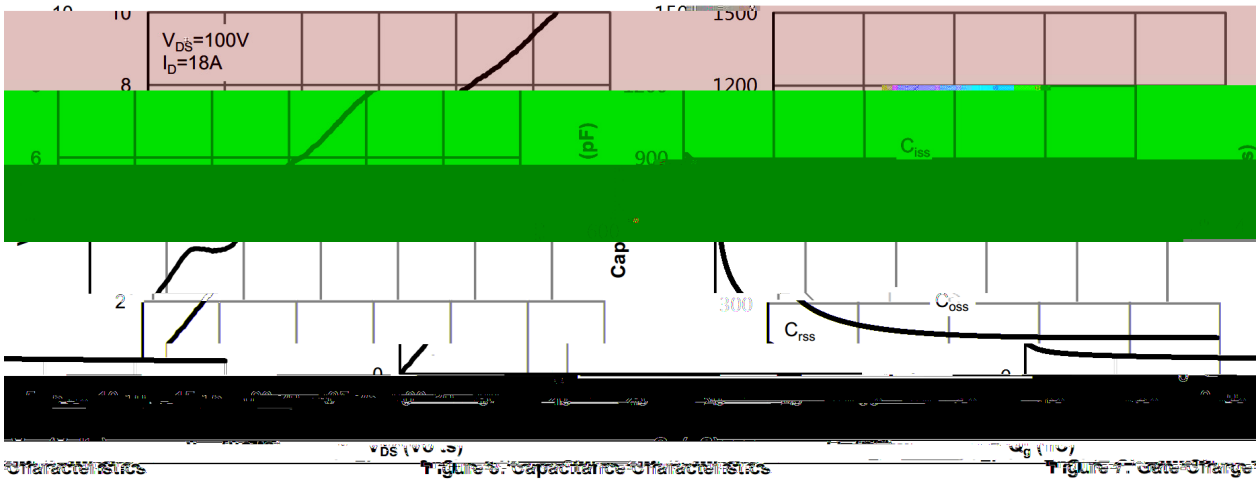
/ Electrical Characteristic Curve



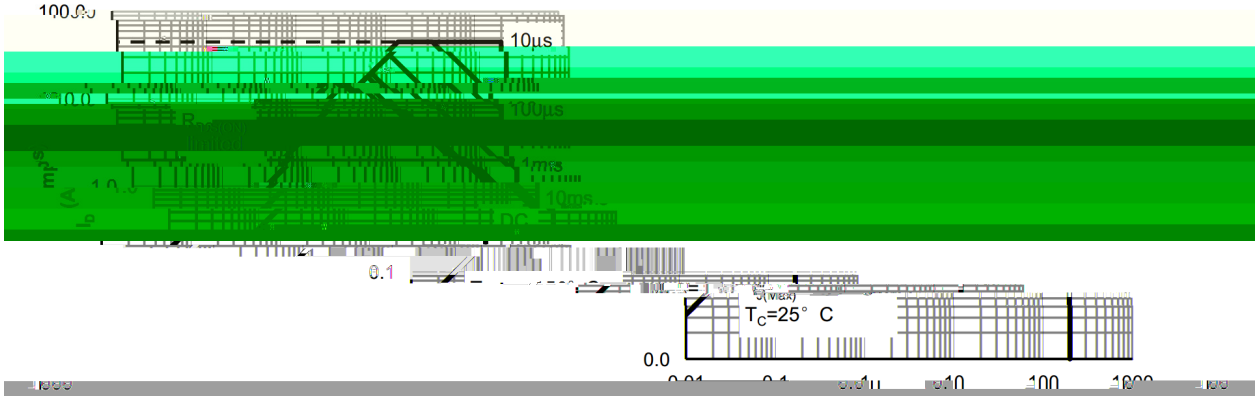




/ Electrical Characteristic Curve



Characteristics Figure 8: Capacitance Characteristics Figure 7: Gate Charge



ting Area Figure 9: Maximum Forward Biased Safe Operating Area

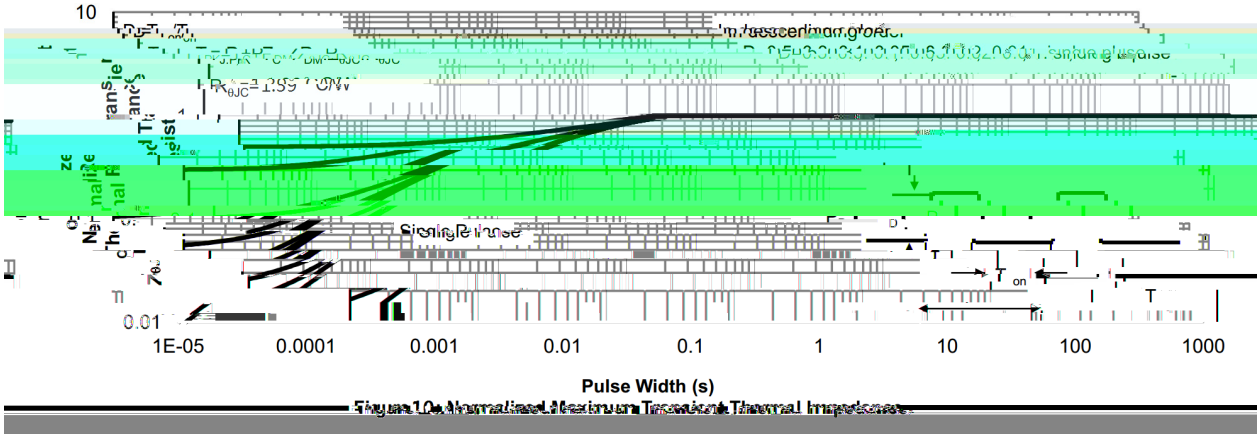
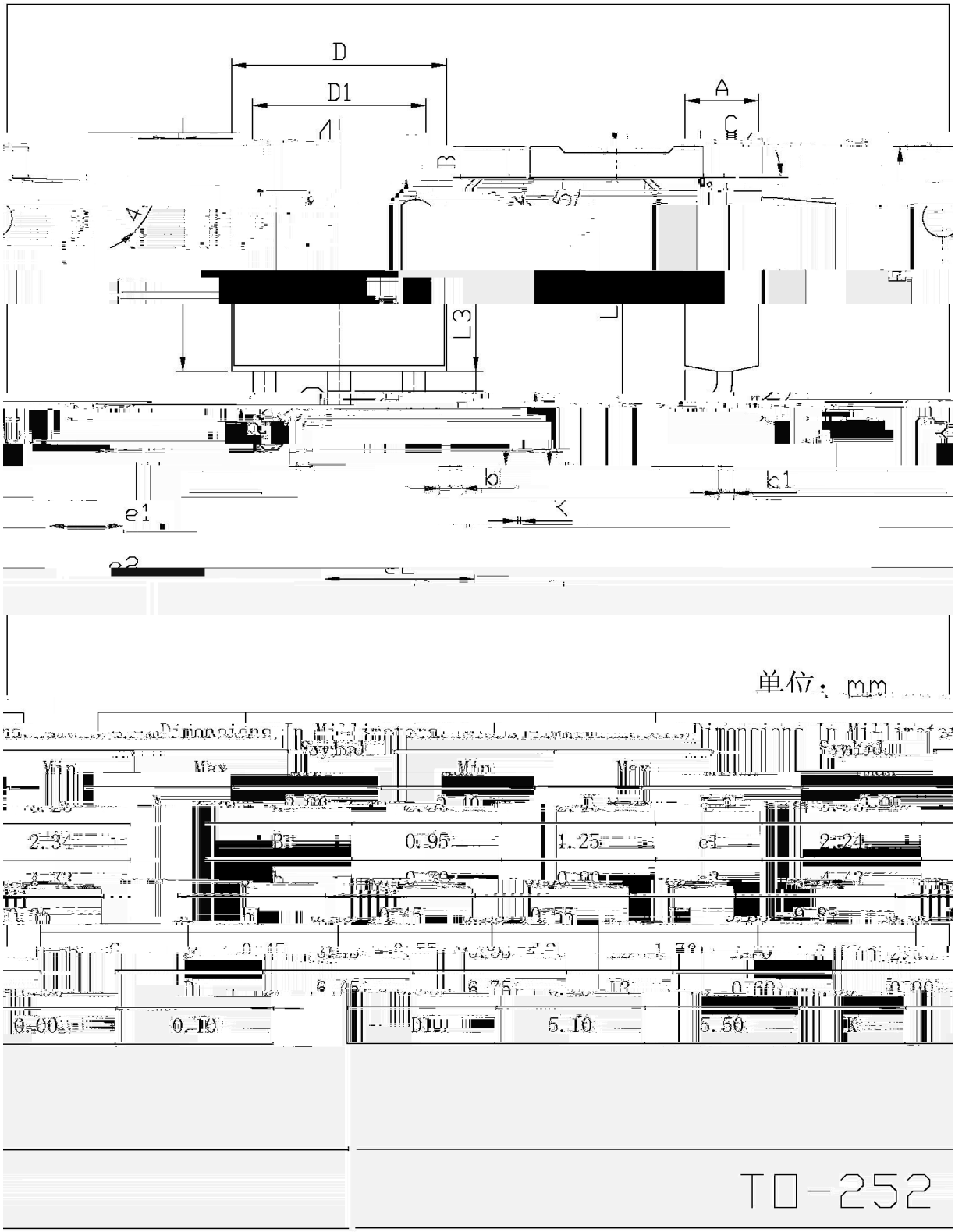
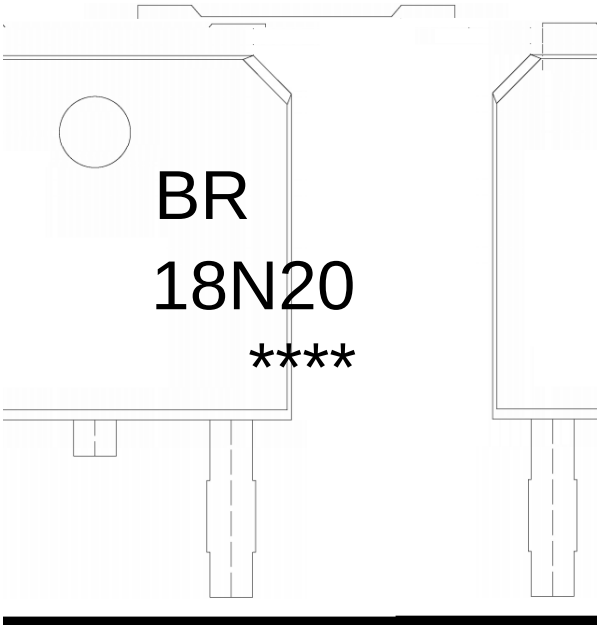


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions



/ Marking Instructions



Note:

BR:	Company Code
18N20:	Product Type Code
****:	Lot No. Code, code change with Lot No.

( ) / 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