

/ Descriptions

TO-220 N MOS N-CHANNEL MOSFET in a TO-220 Plastic Package.

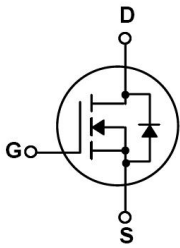
/ Features

Fast Switching, Low ON Resistance, Low Gate Charge, Low Reverse transfer capacitances, 100% Single Pulse avalanche energy Test.

/ Applications

For UPS, inverters, lightin.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 D PIN 3 S

/ h_{FE} Classifications & Marking

See Marking Instructions.

BR40N20
Rev.F Jul.-2018

/ Electrical Characteristics(Ta=25)

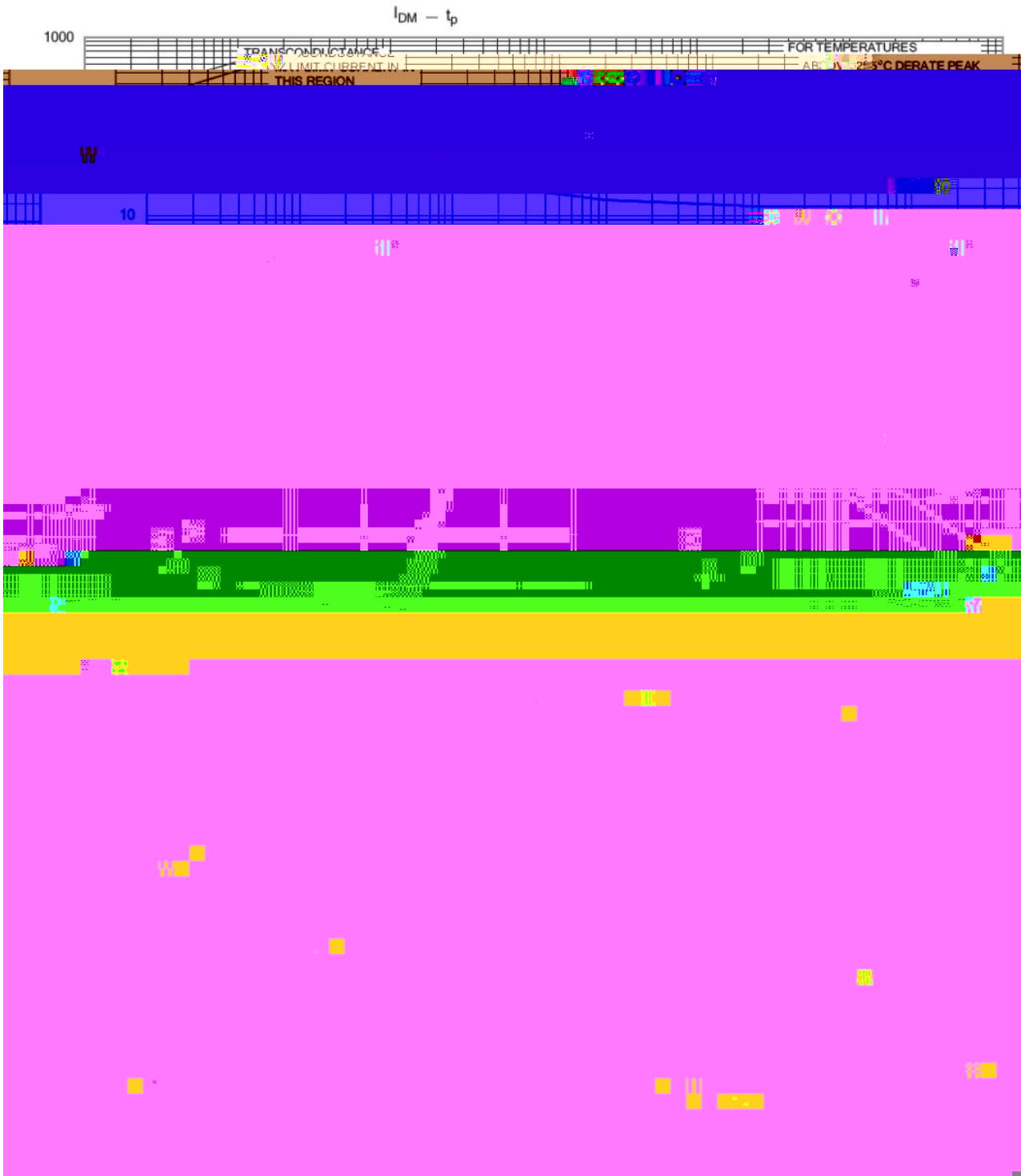
Total Gate Charge	Q_g	$I_D=20A$ $V_{DD}=100V$ $V_{GS} = 10V$		68		nC
Gate-Source Charge	Q_{gs}			17		
Gate-Drain Charge	Q_{gd}			16		
Continuous Source Current	I_S				40	A
Maximum Pulsed Current	I_{SM}				160	A
Diode Forward Voltage	V_{SD}	$I_S=40A$ $V_{GS}=0V$			1.5	V
Reverse Recovery Time	t_{rr}	$I_S=20A$ $T_j=25$ $dI_F/dt=100A/us, V_{GS}=0V$		250		ns
Reverse Recovery Charge	Q_{rr}			1.5		μC

Notes:

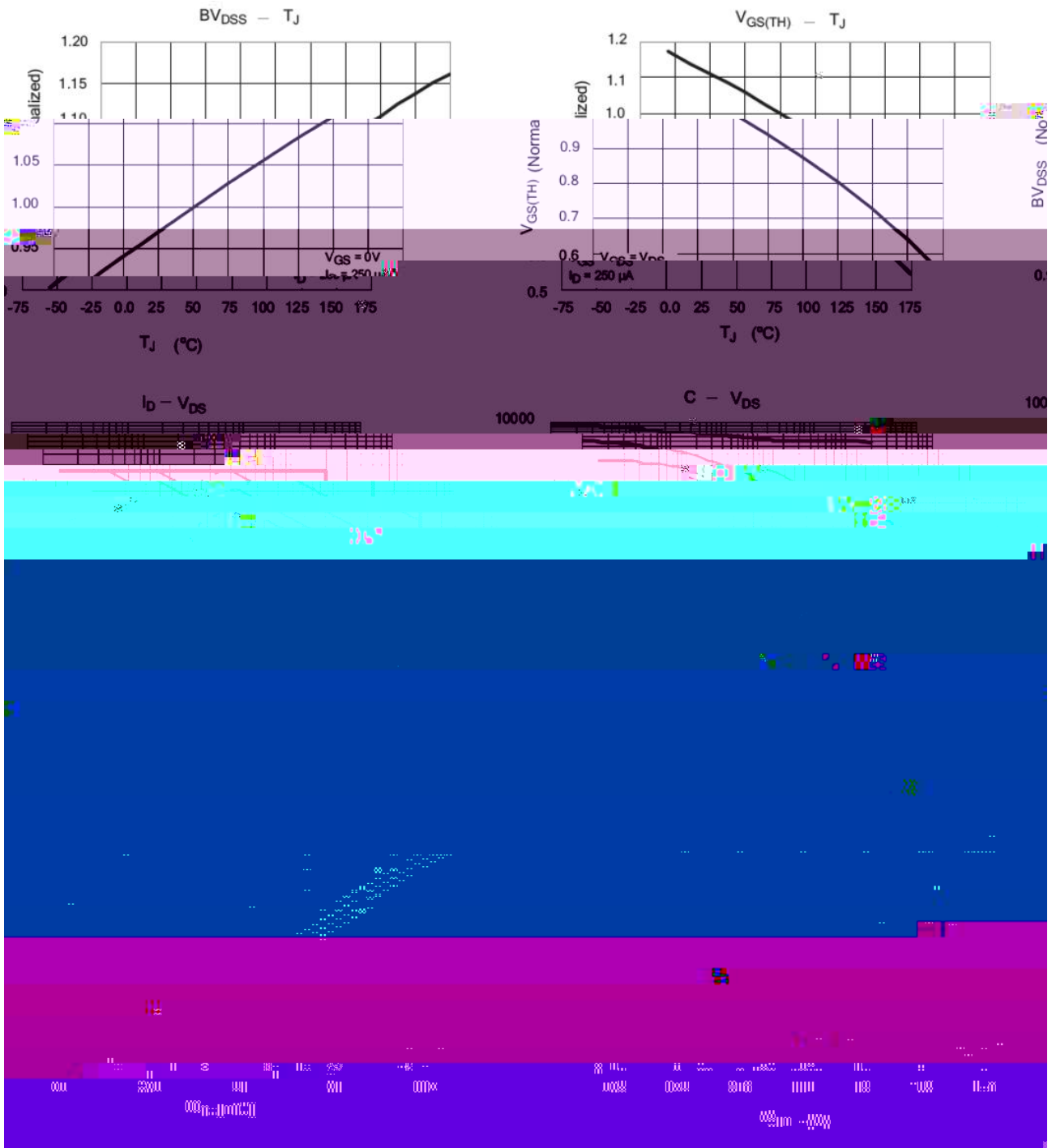
a1 L=1.0mH, $I_D=31.6A$, Start $T_J=25$

a2 $I_{SD} = 10A, di/dt 100A/us, V_{DD} B_{VDS}$, Start $T_J=25$

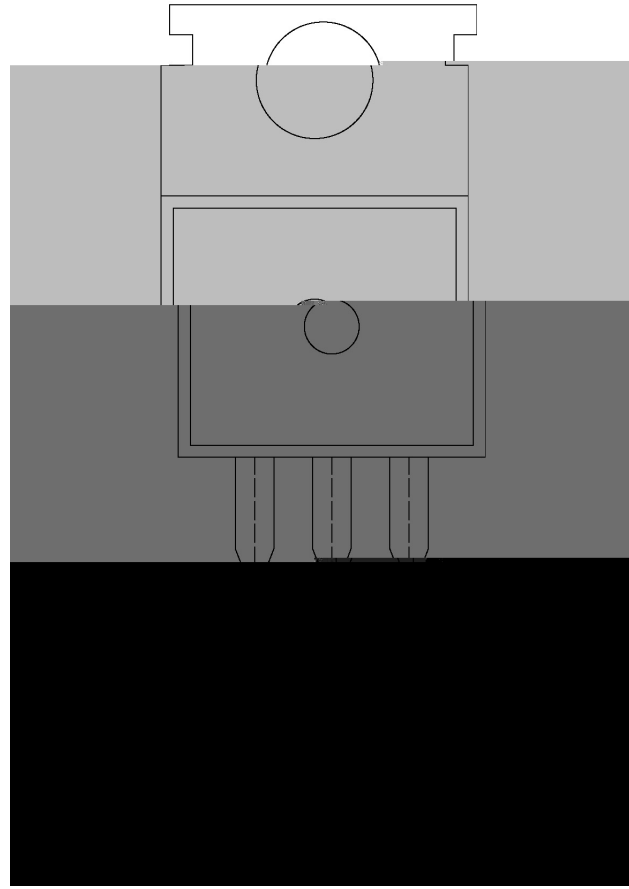
/ Electrical Characteristic Curve



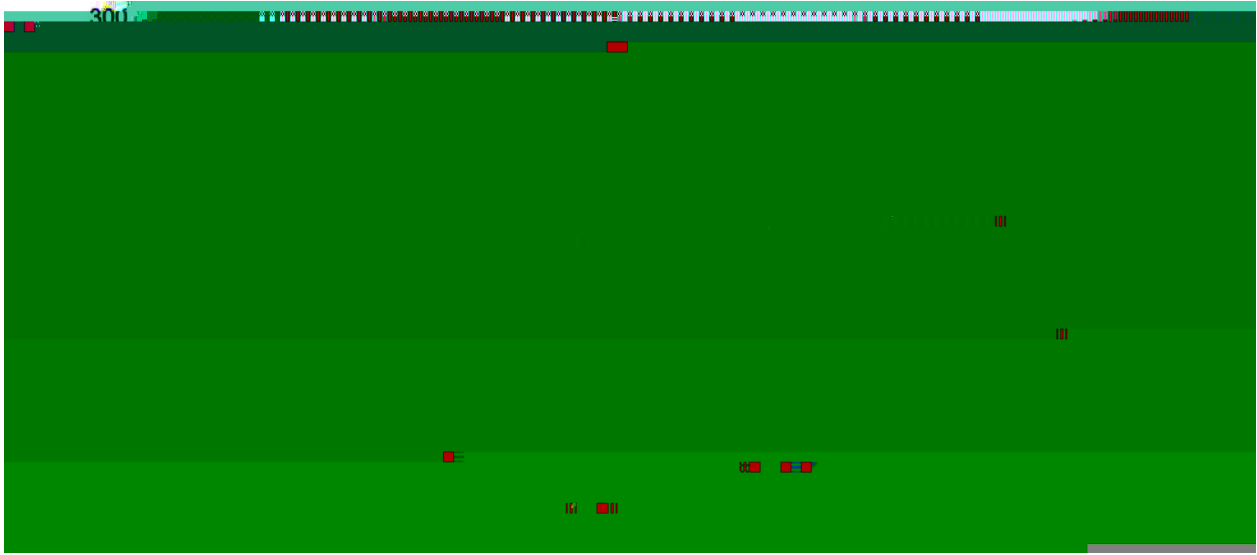
/ Electrical Characteristic Curve



BR40N20
Rev.F Jul.-2018



() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-----|-----|----|----------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255 | 5 | 5 | 0.5sec; | 2.Peak Temp.:255 5 , Duration:5 0.5sec. |
| 3 | | | 2 | 10 /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

270 5 10 1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type	Units					Dimension (unit mm ³)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices