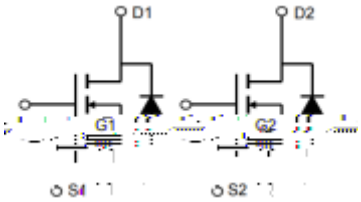
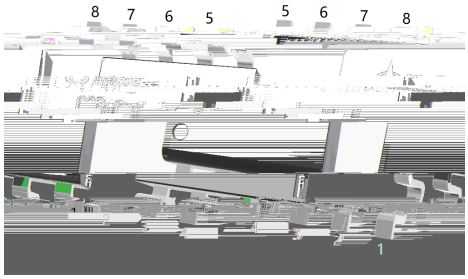
SOP-8 N MOS
Double N-CHANNEL MOSFET in a SOP-8 Plastic Package.

$V_{DS}$(V)=30V $I_D$=7.5A
$R_{DS(ON)}$@10V<25m (Typ. 20mR)
$R_{DS(ON)}$@4.5V<40m (Typ. 28mR)
HF Product.

MB/NB/UMPC/VGA , DC-DC ,
High Frequency Point-of-Load Synchronous Buck Converter for MB/NB/UMPC/VGA, Networking DC-DC Power System,Load Switch.




PIN1 S1 PIN 2

## / Absolute Maximum Ratings(Ta=25 )

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Drain-Source Voltage | $V_{DSS}$ | 30 | V |
| Gate-Source Voltage | $V_{GS}$ | ±20 | V |
| Continuous Drain Current | $I_D$ ($T_C$=25 ) | 7.5 | A |
| Pulsed Drain Current | $I_{DM}$ | 43 | A |
| Power Dissipation | $P_D$ ($T_C$=25 ) | 2.5 | W |
| Junction and Storage Temperature Range | $T_J$,$T_{STG}$ | -55 to +150 | |
| Maximum Junction-to-Ambient | $R_{JA}$(Steady-State) | 90 | /W |
| Maximum Junction-to-Case | $R_{JC}$(Steady-State) | 50 | /W |

## / Electrical Characteristics(Ta=25 )

| Parameter | Symbol | Test Conditions | | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage | $BV_{DSS}$ | $V_{GS}$=0V | $I_D$=250 A | 30 | 34 | | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=30V | $V_{GS}$=0V | | | 1.0 | A |
| Gate-Body leakage current | $I_{GSS}$ | $V_{GS}$=±20V | $V_{DS}$=0V | | | 100 | nA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$=$V_{GS}$ | $I_D$=250 A | 1.0 | 1.7 | 2.5 | V |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}$=10V | $I_D$=6.9A | | 20 | 25 | m |
| | | $V_{GS}$=4.5V | $I_D$=5.0A | | 28 | 40 | m |
| Diode Forward Voltage | $V_{SD}$ | $V_{GS}$=0V | $I_S$=1.0A | | | 1.2 | V |
| Input Capacitance | $C_{iss}$ | $V_{DS}$=25V f=1.0MHz | $V_{GS}$=0V | | 690 | | pF |
| Output Capacitance | $C_{oss}$ | | | | 200 | | pF |
| Reverse Transfer Capacitance | $C_{rss}$ | | | | 130 | | pF |
| Gate resistance | $R_g$ | $V_{DS}$=0V f=1.0MHz | $V_{GS}$=0V | | 2.7 | | Ω |
| Total Gate Charge | $Q_{g(10V)}$ | $V_{GS}$=10V $I_D$=6A | $V_{DS}$=15V | | 5.2 | | nC |
| Total Gate Charge | $Q_{g(4.5V)}$ | | | | 2.5 | | nC |
| Gate-Source Charge | $Q_{gs}$ | | | | 0.8 | | nC |
| Gate-Drain Charge | $Q_{gd}$ | | | | 1.3 | | nC |

## / Electrical Characteristic Curve

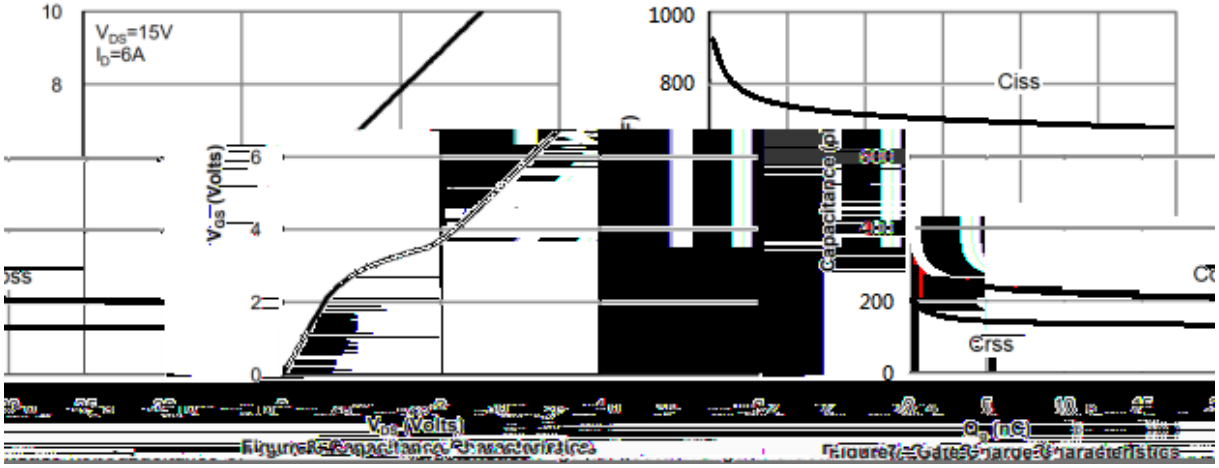



Figure 9: Capacitance Characteristics Figure 7: Gate Charge Characteristics

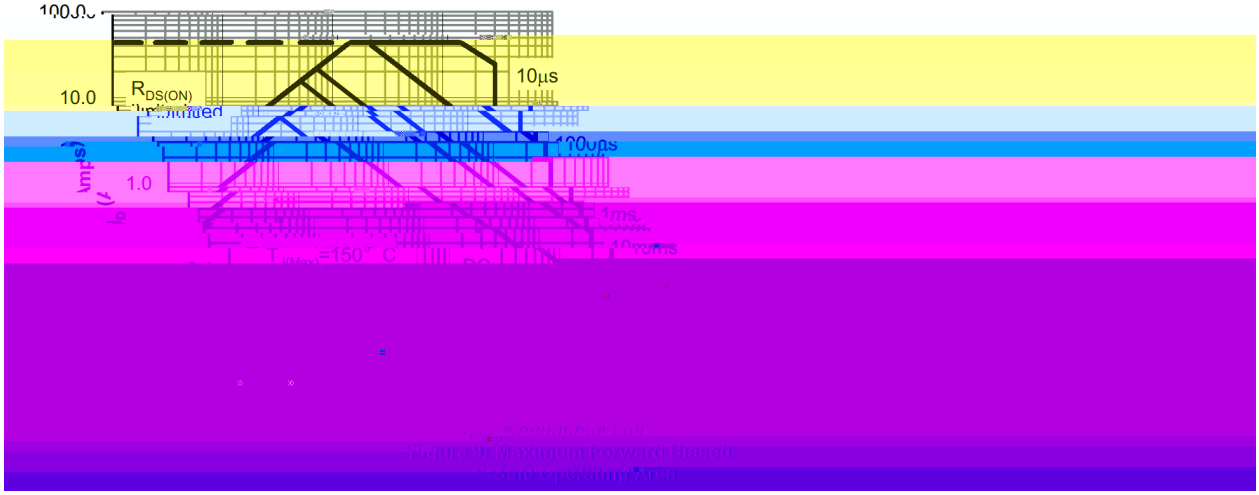
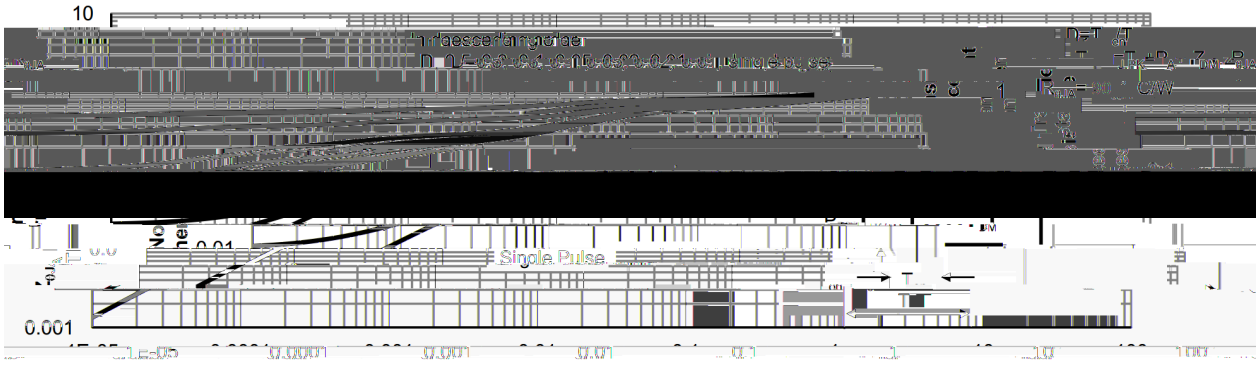


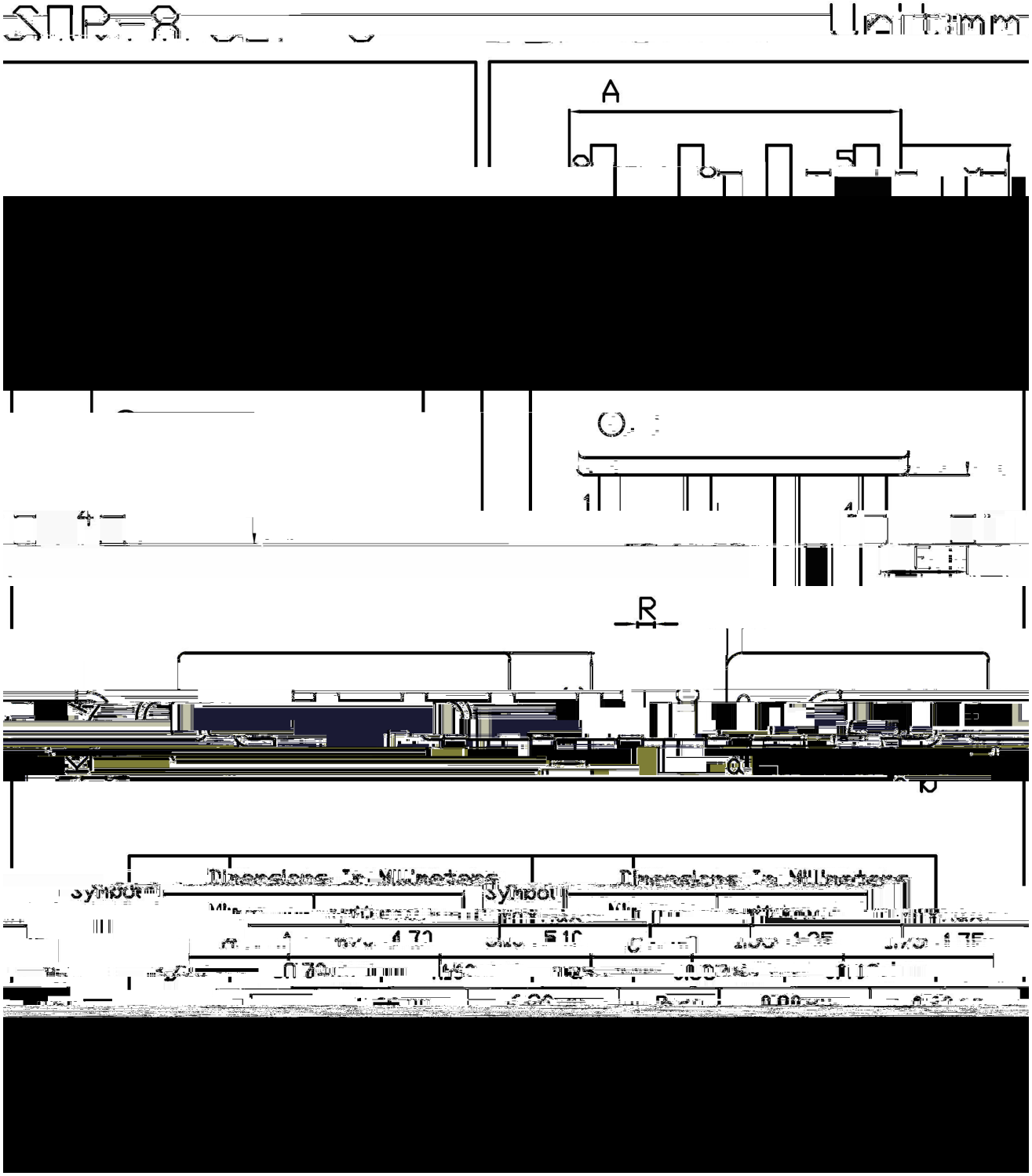

Figure 11: Maximum Forward Biased Safe Operating Area



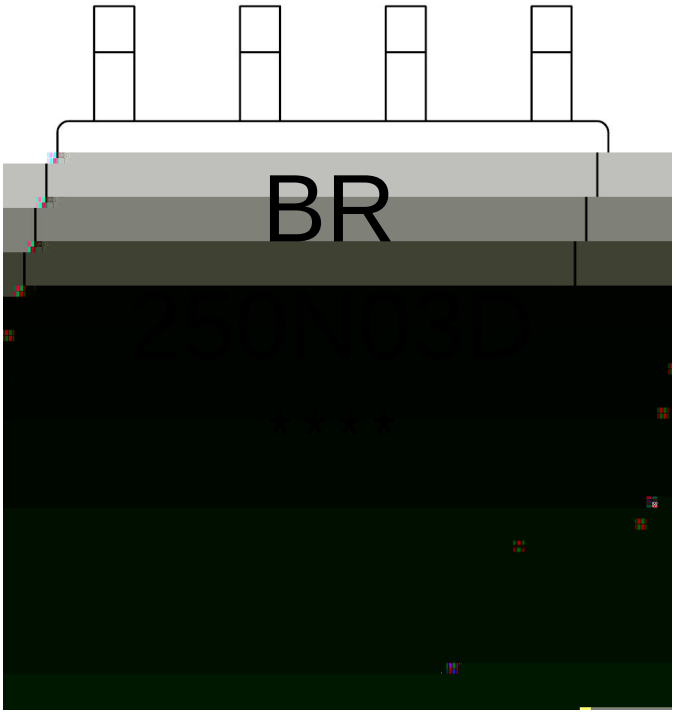

Pulse Width (s)

**Figure 10: Normalized Maximum Transient Thermal Impedance**

## / Package Dimensions



## / Marking Instructions




BR

250N03D

****

Note:

| | |
|---|---|
| BR: | Company Code |
| 250N03D: | Product Type |
| ****: | 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

| | | | |
|---|---|---|---|
| 260±5 | 10±1 sec. | Temp.:260±5 | Time:10±1 sec |

## / Packaging SPEC.

/ REEL