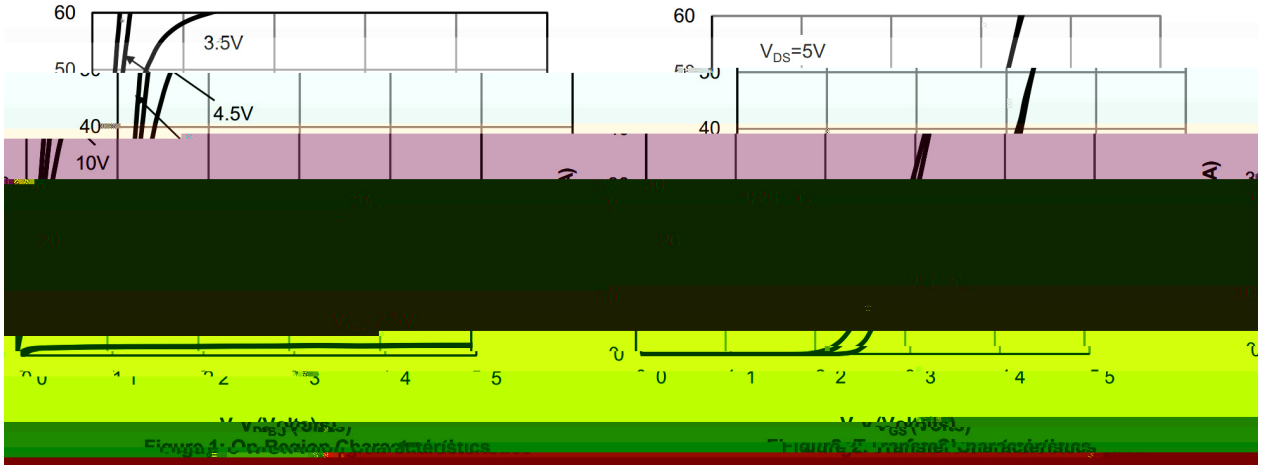
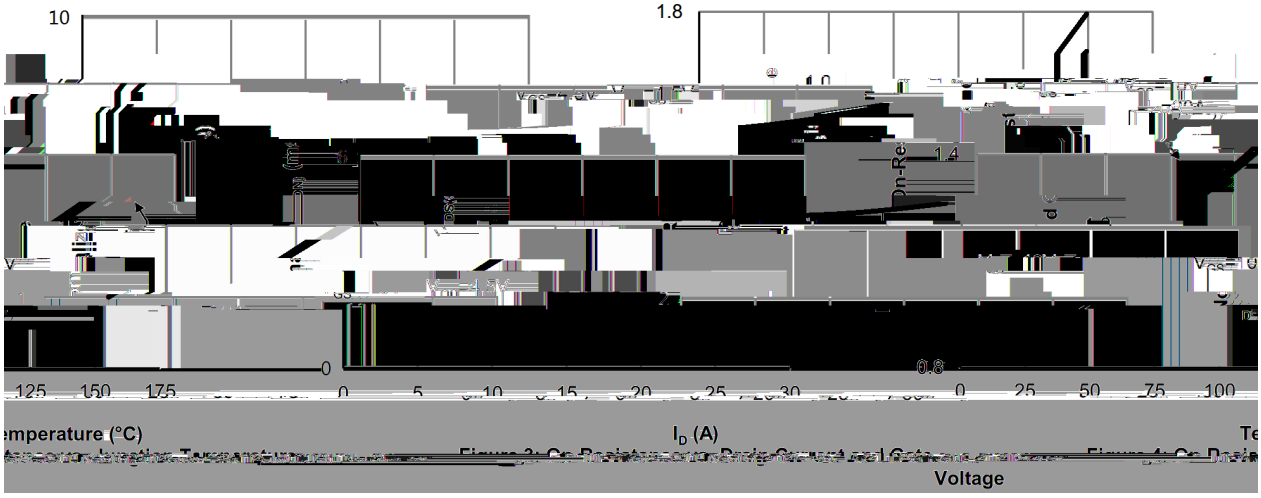
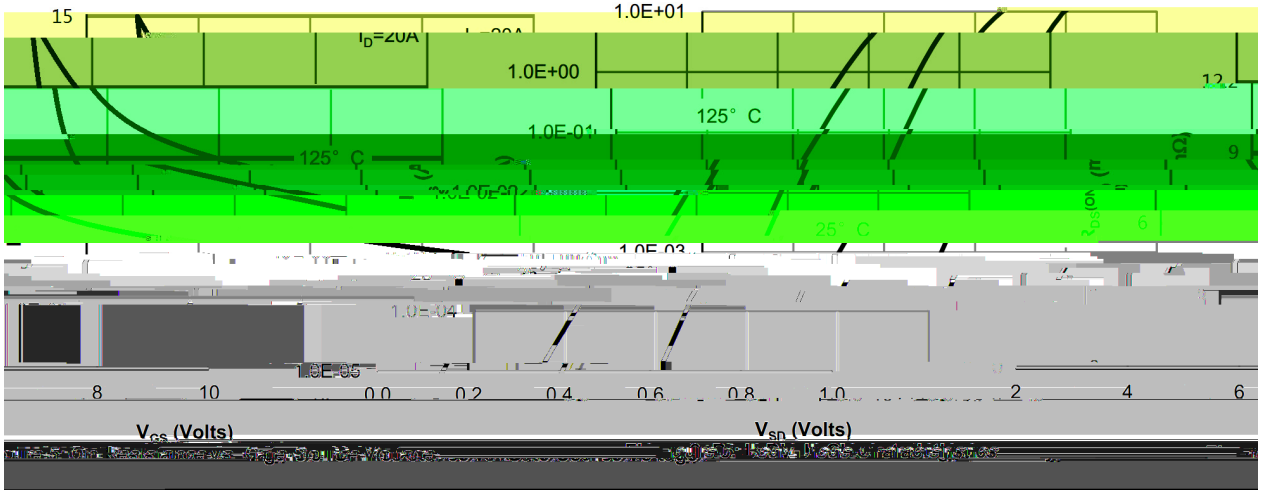
Rev.A Jan.-2024

| Parameter | | Symbol | Rating | Unit |
|---|---|---|---|---|
| Drain-Source Voltage | | $V_{DSS}$ | 40 | V |
| Drain Current | | $I_D$(Tc=25℃) | 57 | A |
| Drain Current - Pulsed | | $I_{DM}$ | 137 | A |
| Gate-Source Voltage | | $V_{GSS}$ | ±20 | V |
| Single Pulsed Avalanche Energy | | $E_{AS}$ | 583.2 | mJ |
| Avalanche Current | | $I_{AS}$ | 27 | A |
| Power Dissipation | | $P_D$(Tc=25℃) | 30 | W |
| Operating and Storage Temperature Range | | $T_J$,$T_{stg}$ | -55 to 150 | |
| Junction-to-Ambient | t≤10 | $R_{JA}$ | 40 | ℃/W |
| Junction-to-Ambient | Steady-State | | 75 | |
| Junction-to-Case | Steady-State | $R_{JC}$ | 4.2 | |

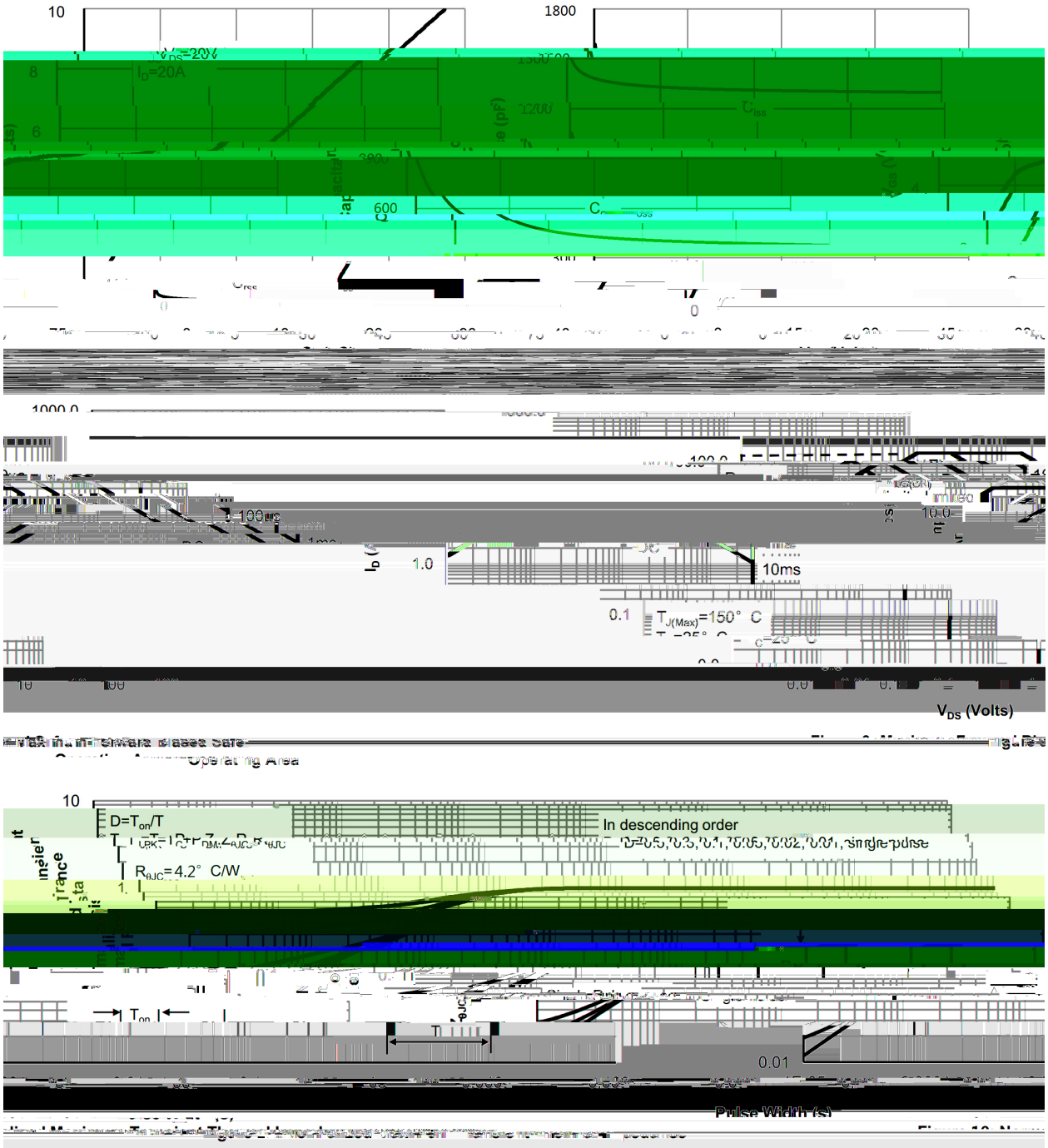
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage | $BV_{DSS}$ | $V_{GS}$=0V $I_D$=250 A | 40 | 43 | | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=40V $V_{GS}$=0V | | | 1 | A |
| Gate-Body Leakage Current Forward | $I_{GSS}$ | $V_{GS}$=±20V $V_{DS}$=0V | | | ±0.1 | A |
| 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 $I_D$=20A | | 4.5 | 5 | m |
| | | $V_{GS}$=4.5V $I_D$=10A | | 6.2 | 10 | m |
| Drain-Source Diode Forward Voltage | $V_{SD}$ | $V_{GS}$=0V $I_S$=1A | | | 1.2 | V |
| Input Capacitance | $C_{iss}$ | $V_{DS}$=25V $V_{GS}$=0V f=1.0MHz | | 1300 | | pF |


60
3.5V
4.5V
40
10V
60
$V_{DS}$=5V
40


10
1.8
1.4
0
0.8
$I_D$ (A)
Voltage

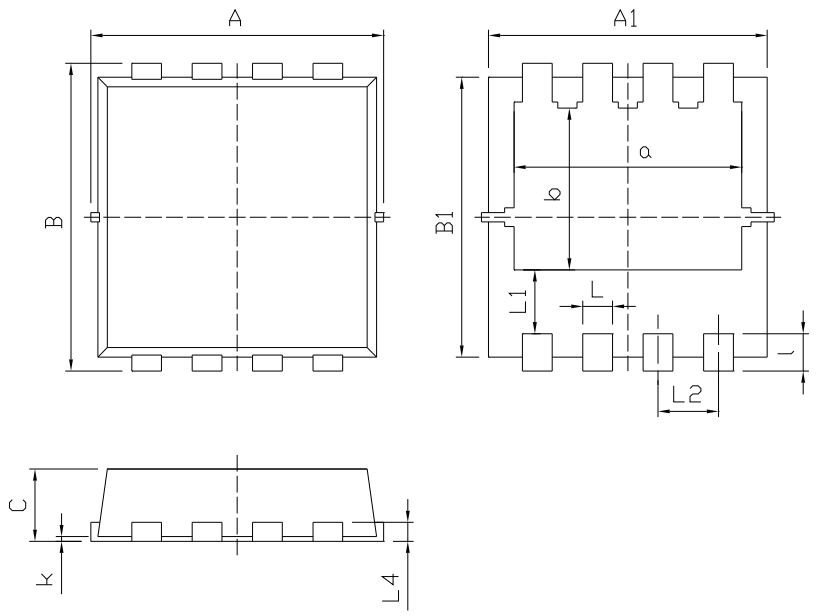

15
1.0E+01
$I_D$=20A
1.0E+00
125° C
1.0E-01
125° C
25° C
8
10
0.0
0.2
0.4
0.6
0.8
1.0
2
4
6
$V_{GS}$ (Volts)
$V_{SD}$ (Volts)

/


10
1800
$I_D$=20A
$C_{iss}$
600
0
100μs
1.0
10ms
0.1
$T_{J(Max)}$=150° C
$V_{DS}$ (Volts)
Operating Area
10
D=$T_{on}$/T
In descending order
$R_{\theta JC}$=4.2° C/W
$T_{on}$
0.01
Pulse Width (s)

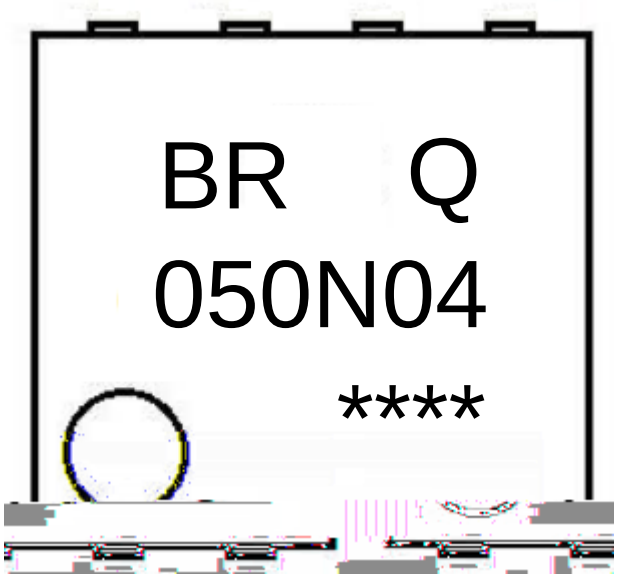
PDFN3X3A-8L

Unit:mm




| Dimensions In Millimeterer | | | |
|---|---|---|---|
| Symbol | MIN | TYP | MAX |
| A | 3.20 | 3.30 | 3.40 |
| A1 | 3.10 | 3.15 | 3.20 |
| B | 3.20 | 3.30 | 3.40 |
| B1 | 2.95 | 3.00 | 3.05 |
| C | 0.75 | 0.80 | 0.85 |
| L | 0.25 | 0.30 | 0.35 |
| L1 | - | - | 0.75 |
| L2 | 0.55 | 0.65 | 0.75 |
| L4 | 0.14 | 0.15 | 0.20 |
| a | 2.35 | 2.45 | 2.55 |
| b | 1.635 | 1.735 | 1.835 |
| k | 0.00 | - | 0.05 |
| l | 0.30 | 0.40 | 0.50 |

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BR

Q

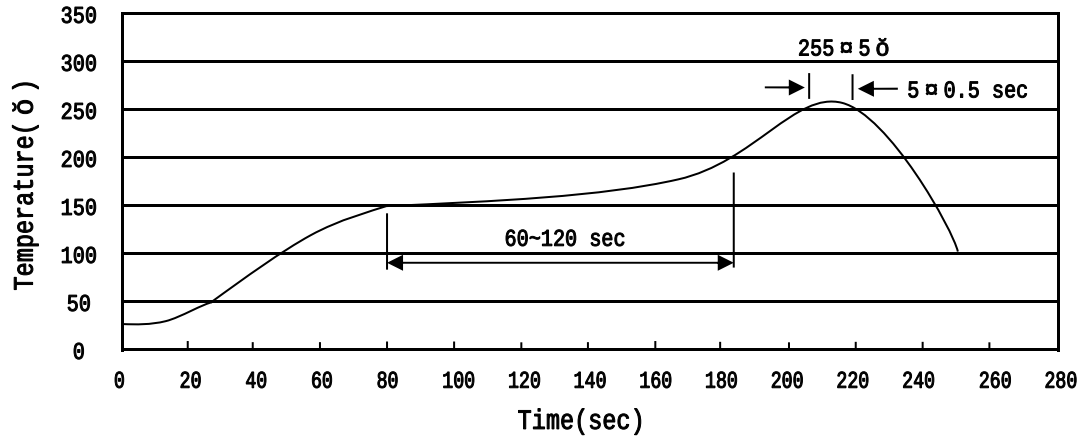
050N04

****

Note:

| | |
|---|---|
| BR: | Company Code |
| Q: | Automobile halogen-free product Code |
| 050N04: | Product Type Code |
| ****: | Lot No. Code, code change with Lot No |

## Temperature Profile for IR Reflow Soldering(Pb-Free)




Note:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | | 150 | 200 | | 60 | 120sec; | 1.Preheating:150~200 , Time:60~120sec. |
| 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. |

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

/ REEL

| Package Type | Units | | | | | Dimension | | (unit mm³) |
|---|---|---|---|---|---|---|---|---|
| | Units/Reel / | Reels/Inner Box / | Units/Inner Box / | Inner Boxes/Outer Box / | Units/Outer Box / | Reel | Inner Box | Outer Box |
| PDFN3×3A-8L | 5,000 | 2 | 10,000 | 6 | 60,000 | 13 ρ ×12 | 360×360×50 | 380×335×366 |