

Rev.A Mar.-2024

DFN3×2-6L N

Common-Drain Dual N-Channel Enhancement MOSFET in a DFN3×2-6L Plastic Package.

$V_{DS(V)}=20V$   $I_D=10A$

$R_{DS(ON)}@4.5V \leq 9.0m\Omega$  (Typ. 7.8mR)

$R_{DS(ON)}@3.8V \leq 9.7m\Omega$  (Typ. 8.2mR)

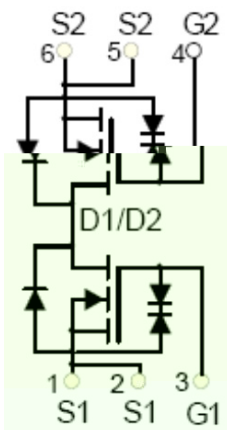
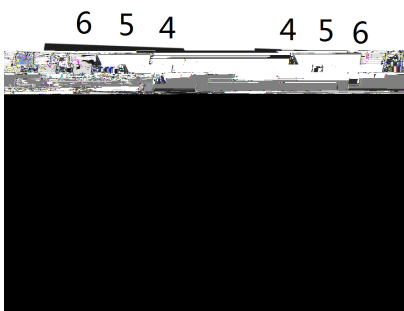
$R_{DS(ON)}@2.5V \leq 12.5m\Omega$  (Typ. 9.5mR)

2KV

ESD protected up to 2KV, HF Product.

POL

Handheld Instruments, POL Applications, Battery Protection Applications.



See Marking Instructions.

| Parameter                               |              | Symbol          | Rating     | Unit |
|-----------------------------------------|--------------|-----------------|------------|------|
| Drain-Source Voltage                    |              | $V_{DSS}$       | 20         | V    |
| Drain Current                           |              | $I_D$           | 10         | A    |
| Drain Current - Pulsed                  |              | $I_{DM}$        | 52         | A    |
| Gate-Source Voltage                     |              | $V_{GSS}$       | $\pm 10$   | V    |
| Power Dissipation                       |              | $P_D$           | 1.5        | W    |
| Operating and Storage Temperature Range |              | $T_J, T_{stg}$  | -55 to 150 |      |
| Junction-to-Ambient                     | Steady-State | $R_{\theta JA}$ | 83.3       | /W   |

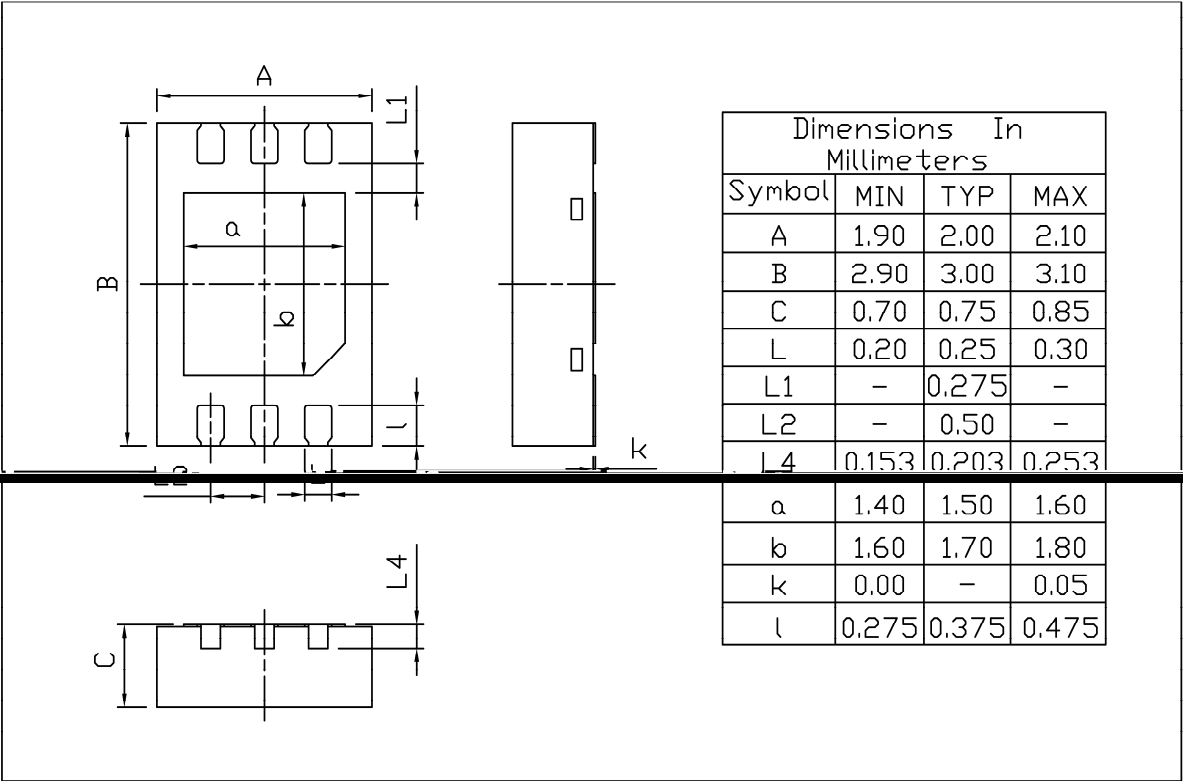
| Parameter                         | Symbol       | Test Conditions                  |                                    | Min | Typ  | Max      | Unit       |
|-----------------------------------|--------------|----------------------------------|------------------------------------|-----|------|----------|------------|
| Drain-Source Breakdown Voltage    | $BV_{DSS}$   | $V_{GS}=0V$                      | $I_D=250\mu A$                     | 20  | 21   |          | V          |
| Zero Gate Voltage Drain Current   | $I_{DSS}$    | $V_{DS}=20V$                     | $V_{GS}=0V$                        |     |      | 1.0      | $\mu A$    |
| Gate-Body leakage current         | $I_{GSS}$    | $V_{GS}=\pm 10V$                 | $V_{DS}=0V$                        |     |      | $\pm 10$ | $\mu A$    |
| Gate Threshold Voltage            | $V_{GS(th)}$ | $V_{DS}=V_{GS}$                  | $I_D=250\mu A$                     | 0.5 | 0.7  | 1.0      | V          |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}=4.5V$                    | $I_D=3A$                           |     | 7.8  | 9.0      | m $\Omega$ |
|                                   |              | $V_{GS}=4.0V$                    | $I_D=3A$                           |     | 8.0  | 9.3      | m $\Omega$ |
|                                   |              | $V_{GS}=3.8V$                    | $I_D=3A$                           |     | 8.2  | 9.7      | m $\Omega$ |
|                                   |              | $V_{GS}=3.1V$                    | $I_D=3A$                           |     | 8.5  | 10.5     | m $\Omega$ |
|                                   |              | $V_{GS}=2.5V$                    | $I_D=3A$                           |     | 9.5  | 12.5     | m $\Omega$ |
| Diode Forward Voltage             | $V_{SD}$     | $V_{GS}=0V$                      | $I_S=1.0A$                         |     |      | 1.2      | V          |
| Input Capacitance                 | $C_{iss}$    | $V_{DS}=10V$<br>$f=1.0MHz$       | $V_{GS}=0V$                        |     | 1900 |          | pF         |
| Output Capacitance                | $C_{oss}$    |                                  |                                    |     | 255  |          | pF         |
| Reverse Transfer Capacitance      | $C_{rss}$    |                                  |                                    |     | 200  |          | pF         |
| Total Gate Charge                 | $Q_g$        | $V_{GS}=4.5V$<br>$I_D=10A$       | $V_{DS}=15V$                       |     | 17.9 |          | nC         |
| Gate-Source Charge                | $Q_{gs}$     |                                  |                                    |     | 1.5  |          | nC         |
| Gate-Drain Charge                 | $Q_{gd}$     |                                  |                                    |     | 4.7  |          | nC         |
| Turn-On Delay Time                | $t_{d(on)}$  | $V_{DS}=10V$<br>$R_L=1.35\Omega$ | $V_{GS}=5.0V$<br>$R_{GEN}=3\Omega$ |     | 2.2  |          | ns         |
| Turn-On Rise Time                 | $t_r$        |                                  |                                    |     | 5.9  |          | ns         |
| Turn-Off Delay Time               | $t_{d(off)}$ |                                  |                                    |     | 40   |          | ns         |
| Turn-Off Fall Time                | $t_f$        |                                  |                                    |     | 90   |          | ns         |



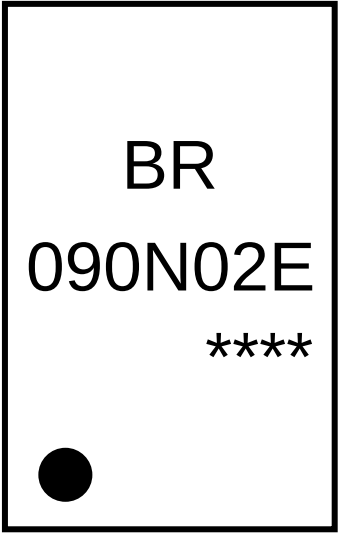
Rr9A57Tr9A2.2(.r9A0.1(Ar9A2.4( r9A0.1(Mr9A1.7(ar9A57rr9A1.9(.r9A0.1(-r9A1.9(2r9A570)).

DFN3X2-6L

Unit:mm



Rev.00 202311

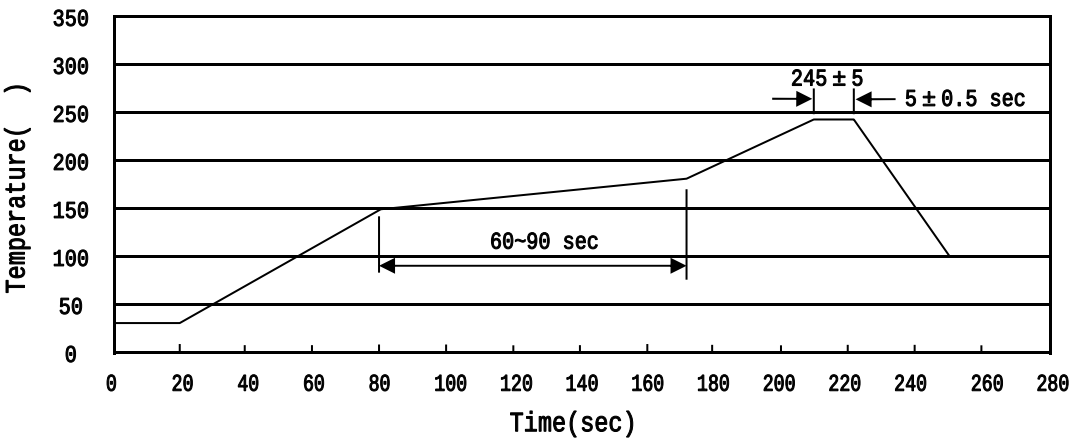


BR  
090N02E  
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Note:

|          |                                       |
|----------|---------------------------------------|
| BR:      | Company Code                          |
| 090N02E: | 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 °C , Time:60~90sec.   |
| 2 | 245±5 |     | 5±0.5sec; |        | 2.Peak Temp.:245±5 °C , Duration:5±0.5sec. |
| 3 |       | 2   | 10        | /sec.  | 3. Cooling Speed: 2~10 °C/sec.             |

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

/ REEL

| Package Type | Units      |                 |                 |                       |                 | Dimension (unit mm <sup>3</sup> ) |             |             |
|--------------|------------|-----------------|-----------------|-----------------------|-----------------|-----------------------------------|-------------|-------------|
|              | Units/Reel | Reels/Inner Box | Units/Inner Box | Inner Boxes/Outer Box | Units/Outer Box | Reel                              | Inner Box   | Outer Box   |
| DFN3×2-6L    | 3,000      | 10              | 30,000          | 4                     | 120,000         | 7 ×8                              | 210×205×205 | 445×435×230 |