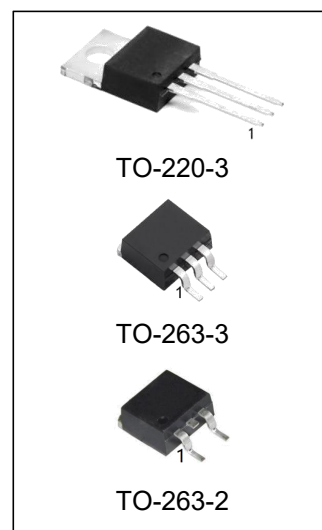


## FEATURES

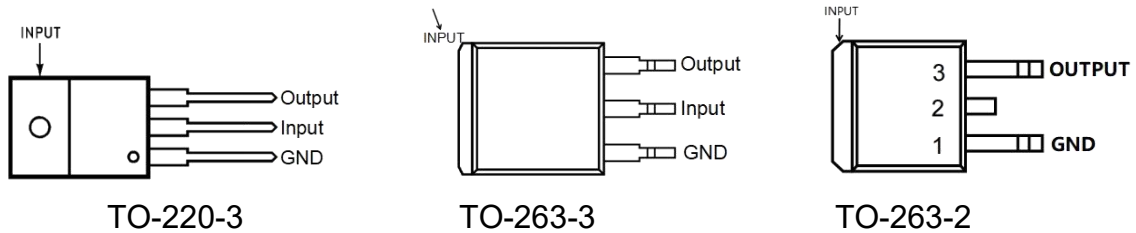
- Output current in excess of 1.5A
- Internal short current circuit limiting
- Internal thermal overload protection
- Output voltage offered of 4% tolerance



## ORDERING INFORMATION

| DEVICE       | Package Type | MARKING | Packing | Packing Qty  |
|--------------|--------------|---------|---------|--------------|
| LM7905CT     | TO-220-3     | LM7905C | TUBE    | 1000pcs/box  |
| LM7906CT     | TO-220-3     | LM7906C | TUBE    | 1000pcs/box  |
| LM7908CT     | TO-220-3     | LM7908C | TUBE    | 1000pcs/box  |
| LM7909CT     | TO-220-3     | LM7909C | TUBE    | 1000pcs/box  |
| LM7912CT     | TO-220-3     | LM7912C | TUBE    | 1000pcs/box  |
| LM7915CT     | TO-220-3     | LM7915C | TUBE    | 1000pcs/box  |
| LM7918CT     | TO-220-3     | LM7918C | TUBE    | 1000pcs/box  |
| LM7924CT     | TO-220-3     | LM7924C | TUBE    | 1000pcs/box  |
| LM7905CS2/TR | TO-263-2     | LM7905C | REEL    | 500 pcs/reel |
| LM7906CS2/TR | TO-263-2     | LM7906C | REEL    | 500 pcs/reel |
| LM7908CS2/TR | TO-263-2     | LM7908C | REEL    | 500 pcs/reel |
| LM7909CS2/TR | TO-263-2     | LM7909C | REEL    | 500 pcs/reel |
| LM7912CS2/TR | TO-263-2     | LM7912C | REEL    | 500 pcs/reel |
| LM7915CS2/TR | TO-263-2     | LM7915C | REEL    | 500 pcs/reel |
| LM7918CS2/TR | TO-263-2     | LM7918C | REEL    | 500 pcs/reel |
| LM7924CS2/TR | TO-263-2     | LM7924C | REEL    | 500 pcs/reel |
| LM7905CS/TR  | TO-263-3     | LM7905C | REEL    | 500 pcs/reel |
| LM7906CS/TR  | TO-263-3     | LM7906C | REEL    | 500 pcs/reel |
| LM7908CS/TR  | TO-263-3     | LM7908C | REEL    | 500 pcs/reel |
| LM7909CS/TR  | TO-263-3     | LM7909C | REEL    | 500 pcs/reel |
| LM7912CS/TR  | TO-263-3     | LM7912C | REEL    | 500 pcs/reel |
| LM7915CS/TR  | TO-263-3     | LM7915C | REEL    | 500 pcs/reel |
| LM7918CS/TR  | TO-263-3     | LM7918C | REEL    | 500 pcs/reel |
| LM7924CS/TR  | TO-263-3     | LM7924C | REEL    | 500 pcs/reel |

## PIN CONFIGURATION



## ABSOLUTE MAXIMUM RATINGS

| Condition                                         | VALUE    | UNIT               |
|---------------------------------------------------|----------|--------------------|
| Maximum input voltage at $T_J=25^{\circ}\text{C}$ | -35      | V                  |
| Maximum operating junction temperature            | +125     | $^{\circ}\text{C}$ |
| Operating Temperature Range                       | 0 ~ +125 | $^{\circ}\text{C}$ |
| Lead Temperature (TL) (Soldering, 10 seconds)     | +245     | $^{\circ}\text{C}$ |

**Note:** Absolute Maximum Ratings indicate limits beyond which damage to the device may occur. Operating Ratings indicate conditions for which the device is intended to be functional, but specific performance is not ensured.

## ELECTRICAL CHARACTERISTICS LM7905C

( $V_{IN} = -10\text{V}$ ,  $I_O = 500\text{mA}$ ,  $C_{IN} = 2.2\mu\text{F}$ ,  $C_O = 1.0\mu\text{F}$ ,  $T_J = 25^{\circ}\text{C}$ , unless otherwise noted)

| CHARACTERISTIC           | SYMBOL       | TEST CONDITION                                                                                                                                                                                                                                                                       | NORMS |                            | UNIT |
|--------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------|------|
|                          |              |                                                                                                                                                                                                                                                                                      | Min   | Max                        |      |
| Output Voltage           | $V_O$        | $-7.0\text{V} \geq V_{IN} \geq -20\text{V}$<br>$5.0\text{mA} \leq I_O \leq 1.0\text{A}$                                                                                                                                                                                              | -4.8  | -5.2                       | V    |
| Line Regulation          | $\Delta U_V$ | $I_O = 100\text{mA}$ , $-7.0\text{V} \geq V_{IN} \geq -25\text{V}$<br>$I_O = 100\text{mA}$ , $-8.0\text{V} \geq V_{IN} \geq -12\text{V}$<br>$I_O = 500\text{mA}$ , $-7.0\text{V} \geq V_{IN} \geq -25\text{V}$<br>$I_O = 500\text{mA}$ , $-8.0\text{V} \geq V_{IN} \geq -12\text{V}$ |       | 47.5<br>23.5<br>95<br>47.5 | mV   |
| Load Regulation          | $\Delta U_I$ | $5.0\text{mA} \leq I_O \leq 1.5\text{A}$<br>$250\text{mA} \leq I_O \leq 750\text{mA}$                                                                                                                                                                                                |       | 95<br>47.5                 | mV   |
| Quiescent Current        | $I_B$        |                                                                                                                                                                                                                                                                                      |       | 7.8                        | mA   |
| Quiescent Current Change | $\Delta I_B$ | $-7.0\text{V} \geq V_{IN} \geq -25\text{V}$<br>$5.0\text{mA} \leq I_O \leq 1.5\text{A}$                                                                                                                                                                                              |       | 1.25<br>0.48               | mA   |

## ELECTRICAL CHARACTERISTICS LM7906C

( $V_{IN} = -11V$ ,  $I_O = 500mA$ ,  $C_{IN} = 2.2\mu F$ ,  $C_O = 1.0\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise noted)

| CHARACTERISTIC           | SYMBOL       | TEST CONDITION                                                                                                                                                                                   | NORMS |                         | UNIT |
|--------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------|------|
|                          |              |                                                                                                                                                                                                  | Min   | Max                     |      |
| Output Voltage           | $V_O$        | $-8.0V \geq V_{IN} \geq -21V$<br>$5.0mA \leq I_O \leq 1.0A$                                                                                                                                      | -5.76 | -6.24                   | V    |
| Line Regulation          | $\Delta U_V$ | $I_O = 100mA$ , $-8.0V \geq V_{IN} \geq -25V$<br>$I_O = 100mA$ , $-9.0V \geq V_{IN} \geq -13V$<br>$I_O = 500mA$ , $-8.0V \geq V_{IN} \geq -25V$<br>$I_O = 500mA$ , $-9.0V \geq V_{IN} \geq -13V$ |       | 57<br>28.5<br>114<br>57 | mV   |
| Load Regulation          | $\Delta U_I$ | $5.0mA \leq I_O \leq 1.5A$<br>$250mA \leq I_O \leq 750mA$                                                                                                                                        |       | 114<br>57               | mV   |
| Quiescent Current        | $I_B$        |                                                                                                                                                                                                  |       | 7.8                     | mA   |
| Quiescent Current Change | $\Delta I_B$ | $-8.0V \geq V_{IN} \geq -25V$<br>$5.0mA \leq I_O \leq 1.5A$                                                                                                                                      |       | 1.25<br>0.48            | mA   |

## ELECTRICAL CHARACTERISTICS LM7908C

( $V_{IN} = -14V$ ,  $I_O = 500mA$ ,  $C_{IN} = 2.2\mu F$ ,  $C_O = 1.0\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise noted)

| CHARACTERISTIC           | SYMBOL       | TEST CONDITION                                                                                                                                                                                   | NORMS |                       | UNIT |
|--------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------|------|
|                          |              |                                                                                                                                                                                                  | Min   | Max                   |      |
| Output Voltage           | $V_O$        | $-10.5V \geq V_{IN} \geq -23V$<br>$5.0mA \leq I_O \leq 1.0A$                                                                                                                                     | -7.68 | -8.32                 | V    |
| Line Regulation          | $\Delta U_V$ | $I_O = 100mA$ , $-10.5V \geq V_{IN} \geq -25V$<br>$I_O = 100mA$ , $-11V \geq V_{IN} \geq -17V$<br>$I_O = 500mA$ , $-10.5V \geq V_{IN} \geq -25V$<br>$I_O = 500mA$ , $-11V \geq V_{IN} \geq -17V$ |       | 76<br>38<br>152<br>76 | mV   |
| Load Regulation          | $\Delta U_I$ | $5.0mA \leq I_O \leq 1.5A$<br>$250mA \leq I_O \leq 750mA$                                                                                                                                        |       | 152<br>76             | mV   |
| Quiescent Current        | $I_B$        |                                                                                                                                                                                                  |       | 7.8                   | mA   |
| Quiescent Current Change | $\Delta I_B$ | $-10.5V \geq V_{IN} \geq -25V$<br>$5.0mA \leq I_O \leq 1.5A$                                                                                                                                     |       | 0.98<br>0.48          | mA   |

## ELECTRICAL CHARACTERISTICS LM7909C

( $V_{IN} = -16V$ ,  $I_O = 500mA$ ,  $C_{IN} = 2.2\mu F$ ,  $C_O = 1.0\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise noted)

| CHARACTERISTIC           | SYMBOL       | TEST CONDITION                                                                                                                                                                                   | NORMS |                       | UNIT |
|--------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------|------|
|                          |              |                                                                                                                                                                                                  | Min   | Max                   |      |
| Output Voltage           | $V_O$        | $-10.5V \geq V_{IN} \geq -25V$<br>$5.0mA \leq I_O \leq 1.0 A$                                                                                                                                    | -8.60 | -9.40                 | V    |
| Line Regulation          | $\Delta U_V$ | $I_O = 100mA$ , $-11.8V \geq V_{IN} \geq -25V$<br>$I_O = 100mA$ , $-12V \geq V_{IN} \geq -20V$<br>$I_O = 500mA$ , $-11.8V \geq V_{IN} \geq -25V$<br>$I_O = 500mA$ , $-12V \geq V_{IN} \geq -20V$ |       | 86<br>43<br>172<br>86 | mV   |
| Load Regulation          | $\Delta U_I$ | $5.0mA \leq I_O \leq 1.5 A$<br>$250mA \leq I_O \leq 750mA$                                                                                                                                       |       | 171<br>86             | mV   |
| Quiescent Current        | $I_B$        |                                                                                                                                                                                                  |       | 7.8                   | mA   |
| Quiescent Current Change | $\Delta I_B$ | $-10.5V \geq V_{IN} \geq -25V$<br>$5.0mA \leq I_O \leq 1.5 A$                                                                                                                                    |       | 1.02<br>0.48          | mA   |

## ELECTRICAL CHARACTERISTICS LM7912C

( $V_{IN} = -19V$ ,  $I_O = 500mA$ ,  $C_{IN} = 2.2\mu F$ ,  $C_O = 1.0\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise noted)

| CHARACTERISTIC           | SYMBOL       | TEST CONDITION                                                                                                                                                                                   | NORMS  |                           | UNIT |
|--------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------|------|
|                          |              |                                                                                                                                                                                                  | Min    | Max                       |      |
| Output Voltage           | $V_O$        | $-14.5V \geq V_{IN} \geq -21V$<br>$5.0mA \leq I_O \leq 1.0 A$                                                                                                                                    | -11.52 | -12.48                    | V    |
| Line Regulation          | $\Delta U_V$ | $I_O = 100mA$ , $-14.5V \geq V_{IN} \geq -30V$<br>$I_O = 100mA$ , $-16V \geq V_{IN} \geq -22V$<br>$I_O = 500mA$ , $-14.5V \geq V_{IN} \geq -30V$<br>$I_O = 500mA$ , $-16V \geq V_{IN} \geq -22V$ |        | 114<br>58.5<br>228<br>114 | mV   |
| Load Regulation          | $\Delta U_I$ | $5.0mA \leq I_O \leq 1.5 A$<br>$250mA \leq I_O \leq 750mA$                                                                                                                                       |        | 228<br>114                | mV   |
| Quiescent Current        | $I_B$        |                                                                                                                                                                                                  |        | 7.8                       | mA   |
| Quiescent Current Change | $\Delta I_B$ | $-14.5V \geq V_{IN} \geq -30V$<br>$5.0mA \leq I_O \leq 1.5 A$                                                                                                                                    |        | 1.25<br>0.48              | mA   |

## ELECTRICAL CHARACTERISTICS LM7915C

( $V_{IN} = -23V$ ,  $I_O = 500mA$ ,  $C_{IN} = 2.2\mu F$ ,  $C_O = 1.0\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise noted)

| CHARACTERISTIC           | SYMBOL       | TEST CONDITION                                                                                                                                                                                   | NORMS |                         | UNIT |
|--------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------|------|
|                          |              |                                                                                                                                                                                                  | Min   | Max                     |      |
| Output Voltage           | $V_O$        | $-17.5V \geq V_{IN} \geq -30V$<br>$5.0mA \leq I_O \leq 1.0 A$                                                                                                                                    | -14.4 | -15.6                   | V    |
| Line Regulation          | $\Delta U_V$ | $I_O = 100mA$ , $-17.5V \geq V_{IN} \geq -30V$<br>$I_O = 100mA$ , $-20V \geq V_{IN} \geq -26V$<br>$I_O = 500mA$ , $-17.5V \geq V_{IN} \geq -30V$<br>$I_O = 500mA$ , $-20V \geq V_{IN} \geq -26V$ |       | 142<br>71<br>285<br>142 | mV   |
| Load Regulation          | $\Delta U_I$ | $5.0mA \leq I_O \leq 1.5 A$<br>$250mA \leq I_O \leq 750mA$                                                                                                                                       |       | 285<br>142              | mV   |
| Quiescent Current        | $I_B$        |                                                                                                                                                                                                  |       | 7.8                     | mA   |
| Quiescent Current Change | $\Delta I_B$ | $-17.5V \geq V_{IN} \geq -30V$<br>$5.0mA \leq I_O \leq 1.5 A$                                                                                                                                    |       | 0.98<br>0.48            | mA   |

## ELECTRICAL CHARACTERISTICS LM7918C

( $V_{IN} = -27V$ ,  $I_O = 500mA$ ,  $C_{IN} = 2.2\mu F$ ,  $C_O = 1.0\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise noted)

| CHARACTERISTIC           | SYMBOL       | TEST CONDITION                                                                                                                                                                               | NORMS  |                           | UNIT |
|--------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------|------|
|                          |              |                                                                                                                                                                                              | Min    | Max                       |      |
| Output Voltage           | $V_O$        | $-21V \geq V_{IN} \geq -33V$<br>$5.0mA \leq I_O \leq 1.0 A$                                                                                                                                  | -17.28 | -18.72                    | V    |
| Line Regulation          | $\Delta U_V$ | $I_O = 100mA$ , $-21V \geq V_{IN} \geq -33V$<br>$I_O = 100mA$ , $-24V \geq V_{IN} \geq -30V$<br>$I_O = 500mA$ , $-21V \geq V_{IN} \geq -33V$<br>$I_O = 500mA$ , $-24V \geq V_{IN} \geq -30V$ |        | 171<br>85.5<br>342<br>171 | mV   |
| Load Regulation          | $\Delta U_I$ | $5.0mA \leq I_O \leq 1.5 A$<br>$250mA \leq I_O \leq 750mA$                                                                                                                                   |        | 342<br>171                | mV   |
| Quiescent Current        | $I_B$        |                                                                                                                                                                                              |        | 7.8                       | mA   |
| Quiescent Current Change | $\Delta I_B$ | $-21V \geq V_{IN} \geq -33V$<br>$5.0mA \leq I_O \leq 1.5 A$                                                                                                                                  |        | 0.98<br>0.48              | mA   |

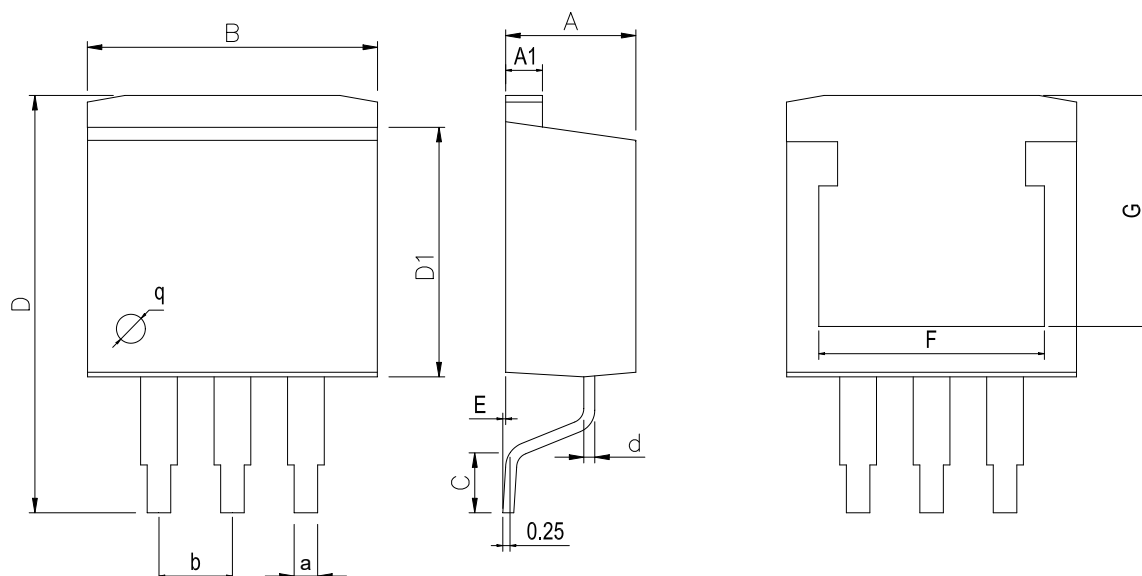
## ELECTRICAL CHARACTERISTICS LM7924C

( $V_{IN} = -33V$ ,  $I_O = 500mA$ ,  $C_{IN} = 2.2\mu F$ ,  $C_O = 1.0\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise noted)

| CHARACTERISTIC           | SYMBOL       | TEST CONDITION                                                                                                                                                                               | NORMS |                          | UNIT |
|--------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------|------|
|                          |              |                                                                                                                                                                                              | Min   | Max                      |      |
| Output Voltage           | $V_O$        | $-27V \geq V_{IN} \geq -38V$<br>$5.0mA \leq I_O \leq 1.0 A$                                                                                                                                  | -23   | -25                      | V    |
| Line Regulation          | $\Delta U_V$ | $I_O = 100mA$ , $-27V \geq V_{IN} \geq -38V$<br>$I_O = 100mA$ , $-30V \geq V_{IN} \geq -36V$<br>$I_O = 500mA$ , $-27V \geq V_{IN} \geq -38V$<br>$I_O = 500mA$ , $-30V \geq V_{IN} \geq -36V$ |       | 228<br>114<br>446<br>228 | mV   |
| Load Regulation          | $\Delta U_I$ | $5.0mA \leq I_O \leq 1.5 A$<br>$250mA \leq I_O \leq 750mA$                                                                                                                                   |       | 446<br>228               | mV   |
| Quiescent Current        | $I_B$        |                                                                                                                                                                                              |       | 7.8                      | mA   |
| Quiescent Current Change | $\Delta I_B$ | $-27V \geq V_{IN} \geq -33V$<br>$5.0mA \leq I_O \leq 1.5 A$                                                                                                                                  |       | 0.98<br>0.48             | mA   |

# PHYSICAL DIMENSIONS

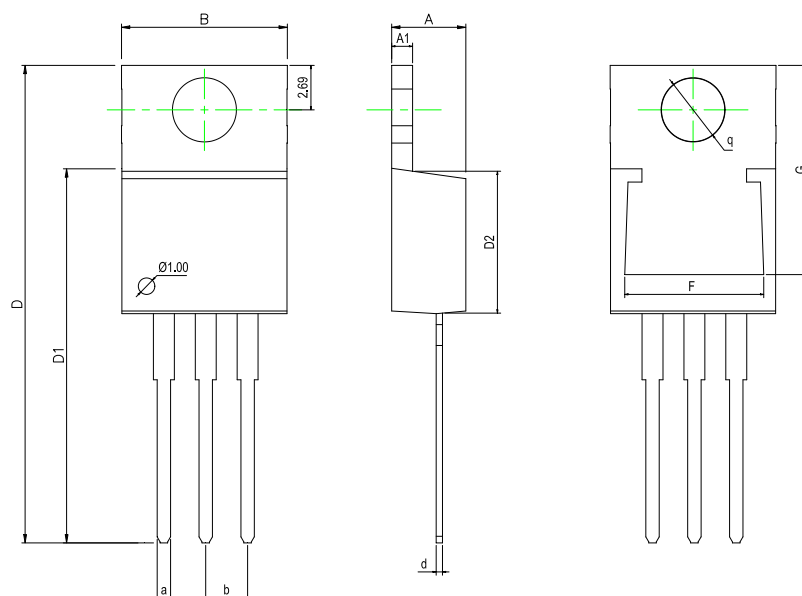
## TO-263-3



**Dimensions In Millimeters(TO-263-3)**

| Symbol: | A    | A1   | B    | C    | D    | D1   | E     | F     | G    | a    | b       |
|---------|------|------|------|------|------|------|-------|-------|------|------|---------|
| Min:    | 4.45 | 1.22 | 10   | 1.89 | 13.7 | 8.38 | 0     | 8.332 | 7.70 | 0.71 | 2.54BSC |
| Max:    | 4.62 | 1.32 | 10.4 | 2.19 | 14.6 | 8.89 | 0.305 | 8.552 | 8.10 | 0.97 |         |

## TO-220-3

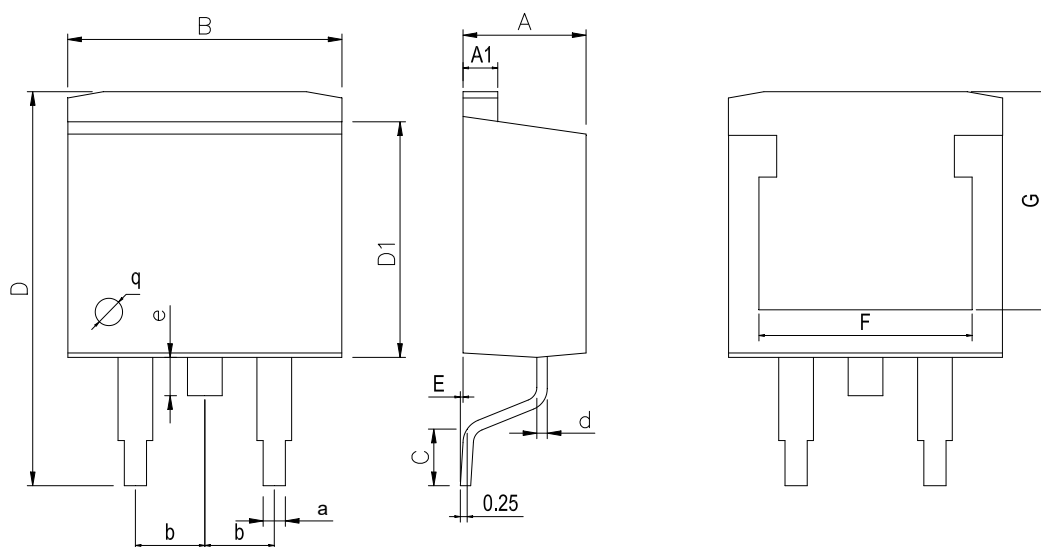


**Dimensions In Millimeters(TO-220-3)**

| Symbol: | A    | A1   | B    | D    | D1    | D2   | F    | G     | a    | d    | b      | q       |
|---------|------|------|------|------|-------|------|------|-------|------|------|--------|---------|
| Min:    | 4.45 | 1.22 | 10   | 28.2 | 22.22 | 8.50 | 8.30 | 12.55 | 0.71 | 0.33 | 2.54BS | 3.80TYP |
| Max:    | 4.62 | 1.32 | 10.4 | 28.9 | 22.62 | 9.10 | 8.55 | 12.75 | 0.97 | 0.42 | C      |         |

## PHYSICAL DIMENSIONS

TO-263-2



| Dimensions In Millimeters(TO-263-2) |      |      |      |      |      |      |       |      |      |      |      |         |
|-------------------------------------|------|------|------|------|------|------|-------|------|------|------|------|---------|
| Symbol:                             | A    | A1   | B    | C    | D    | D1   | E     | F    | G    | a    | e    | b       |
| Min:                                | 4.45 | 1.22 | 10   | 2.25 | 14.5 | 8.45 | 0     | 8.30 | 7.70 | 0.71 | 1.10 | 2.54BSC |
| Max:                                | 4.62 | 1.32 | 10.4 | 2.85 | 15.4 | 9.10 | 0.305 | 8.55 | 8.10 | 0.97 | 1.70 |         |

## REVISION HISTORY

| DATE      | REVISION                                                                        | PAGE |
|-----------|---------------------------------------------------------------------------------|------|
| 2018-1-5  | New                                                                             | 1-10 |
| 2023-9-13 | Update Lead Temperature、Update Package Type、Add annotation for Maximum Ratings. | 1、 2 |

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