

8514019 SPRAGUE, SEMICONDUCTORS/ICS

93D 03601 D

T-29-25

## PLASTIC-CASE JUNCTION FIELD-EFFECT TRANSISTORS

## N-Channel JFETs

ELECTRICAL CHARACTERISTICS at  $T_A = 25^\circ\text{C}$ 

| Device<br>Type | V <sub>(BR)ESS</sub> |                          | I <sub>GSS</sub> |                          | V <sub>GS(off)</sub> |             |                        |                        | I <sub>DSS</sub> |              |                          | g <sub>fs</sub> |              |                          | C <sub>iss</sub> <sup>1</sup> |                          | C <sub>rss</sub> <sup>1</sup> |                          | r <sub>DS</sub><br>Max.<br>(Ω) | Process |
|----------------|----------------------|--------------------------|------------------|--------------------------|----------------------|-------------|------------------------|------------------------|------------------|--------------|--------------------------|-----------------|--------------|--------------------------|-------------------------------|--------------------------|-------------------------------|--------------------------|--------------------------------|---------|
|                |                      |                          |                  |                          | Limits               |             | Conditions             |                        |                  |              |                          |                 |              |                          |                               |                          |                               |                          |                                |         |
|                | Min.<br>(V)          | @ I <sub>G</sub><br>(μA) | Max.<br>(nA)     | @ V <sub>GS</sub><br>(V) | Min.<br>(V)          | Max.<br>(V) | V <sub>DS</sub><br>(V) | I <sub>D</sub><br>(nA) | Min.<br>(mA)     | Max.<br>(mA) | @ V <sub>DS</sub><br>(V) | Min.<br>(mS)    | Max.<br>(mS) | @ V <sub>DS</sub><br>(V) | Max.<br>(pF)                  | @ V <sub>DS</sub><br>(V) | Max.<br>(pF)                  | @ V <sub>DS</sub><br>(V) |                                |         |
| TP4858A        | -40                  | -1.0                     | -1.0             | -20                      | -0.8                 | -4.0        | 15                     | 1.0                    | 8.0              | 80           | 15                       | —               | —            | —                        | 10                            | -10 <sup>3</sup>         | 3.5                           | -10 <sup>3</sup>         | 60                             | NJ132   |
| TP4859         | -30                  | -1.0                     | -1.0             | -15                      | -4.0                 | -10         | 15                     | 1.0                    | 50               | —            | 15                       | —               | —            | —                        | 18                            | -10 <sup>3</sup>         | 8.0                           | -10 <sup>3</sup>         | 25                             | NJ132   |
| TP4859A        | -30                  | -1.0                     | -1.0             | -15                      | -4.0                 | -10         | 15                     | 1.0                    | 50               | —            | 15                       | —               | —            | —                        | 10                            | -10 <sup>3</sup>         | 4.0                           | -10 <sup>3</sup>         | 25                             | NJ132   |
| TP4860         | -30                  | -1.0                     | -1.0             | -15                      | -2.0                 | -6.0        | 15                     | 1.0                    | 20               | 100          | 15                       | —               | —            | —                        | 18                            | -10 <sup>3</sup>         | 8.0                           | -10 <sup>3</sup>         | 40                             | NJ132   |
| TP4860A        | -30                  | -1.0                     | -1.0             | -15                      | -2.0                 | -6.0        | 15                     | 1.0                    | 20               | 100          | 15                       | —               | —            | —                        | 10                            | -10 <sup>3</sup>         | 3.5                           | -10 <sup>3</sup>         | 40                             | NJ132   |
| TP4861         | -30                  | -1.0                     | -1.0             | -15                      | -0.8                 | -4.0        | 15                     | 1.0                    | 8.0              | 80           | 15                       | —               | —            | —                        | 18                            | -10 <sup>3</sup>         | 8.0                           | -10 <sup>3</sup>         | 60                             | NJ132   |
| TP4861A        | -30                  | -1.0                     | -1.0             | -15                      | -0.8                 | -4.0        | 15                     | 1.0                    | 8.0              | 80           | 15                       | —               | —            | —                        | 10                            | -10 <sup>3</sup>         | 3.5                           | -10 <sup>3</sup>         | 60                             | NJ132   |
| TP4867         | -40                  | -1.0                     | -1.0             | -30                      | -0.7                 | -2.0        | 20                     | 1.0 <sup>2</sup>       | 0.4              | 1.2          | 20                       | 0.7             | 2.0          | 20                       | 25                            | 20                       | 5.0                           | 20                       | —                              | NJ16    |
| TP4868         | -40                  | -1.0                     | -1.0             | -30                      | -1.0                 | -3.0        | 20                     | 1.0 <sup>2</sup>       | 1.0              | 3.0          | 20                       | 1.0             | 3.0          | 20                       | 25                            | 20                       | 5.0                           | 20                       | —                              | NJ16    |
| TP4869         | -40                  | -1.0                     | -1.0             | -30                      | -1.8                 | -5.0        | 20                     | 1.0 <sup>2</sup>       | 2.5              | 7.5          | 20                       | 1.3             | 4.0          | 20                       | 25                            | 20                       | 5.0                           | 20                       | —                              | NJ16    |
| TP5078         | -30                  | -1.0                     | -1.0             | -20                      | -0.5                 | -8.0        | 15                     | 1.0                    | 4.0              | 25           | 15                       | 4.0             | —            | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ26    |
| TP5103         | -25                  | -1.0                     | -1.0             | -15                      | -0.5                 | -4.0        | 15                     | 1.0                    | 1.0              | 8.0          | 15                       | 2.0             | 8.0          | 15                       | 5.0                           | 15                       | 1.2                           | 15                       | —                              | NJ26    |
| TP5104         | -25                  | -1.0                     | -1.0             | -15                      | -0.5                 | -4.0        | 15                     | 1.0                    | 2.0              | 6.0          | 15                       | 3.5             | 7.5          | 15                       | 5.0                           | 15                       | 1.2                           | 15                       | —                              | NJ26    |
| TP5105         | -25                  | -1.0                     | -1.0             | -15                      | -0.5                 | -4.0        | 15                     | 1.0                    | 5.0              | 15           | 15                       | 5.0             | 10           | 15                       | 5.0                           | 15                       | 1.2                           | 15                       | —                              | NJ26    |
| TP5163         | -25                  | -1.0                     | -1.0             | -15                      | -0.4                 | -8.0        | 15                     | 1.0 <sup>2</sup>       | 1.0              | 4.0          | 15                       | 2.0             | 9.0          | 15                       | 12                            | 15                       | 3.0                           | 15                       | —                              | NJ26    |
| TP5245         | -30                  | -1.0                     | -1.0             | -20                      | -1.0                 | -6.0        | 15                     | 10                     | 5.0              | 15           | 15                       | 4.0             | —            | 15                       | 4.5                           | 15                       | 1.5                           | 15                       | —                              | NJ26    |
| TP5246         | -30                  | -1.0                     | -1.0             | -20                      | -0.5                 | -4.0        | 15                     | 10                     | 1.5              | 7.0          | 15                       | 2.5             | —            | 15                       | 4.5                           | 15                       | 1.5                           | 15                       | —                              | NJ26    |
| TP5247         | -30                  | -1.0                     | -1.0             | -20                      | -1.5                 | -8.0        | 15                     | 10                     | 8.0              | 24           | 15                       | 4.0             | —            | 15                       | 4.5                           | 15                       | 1.5                           | 15                       | —                              | NJ26    |
| TP5248         | -30                  | -1.0                     | -1.0             | -20                      | -1.0                 | -8.0        | 15                     | 10                     | 4.0              | 20           | 15                       | 3.0             | —            | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ26    |
| TP5358         | -40                  | -1.0                     | -1.0             | -20                      | -0.5                 | -3.0        | 15                     | 100                    | 0.5              | 1.0          | 15                       | 1.0             | 3.0          | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ16    |
| TP5359         | -40                  | -1.0                     | -1.0             | -20                      | -0.8                 | -4.0        | 15                     | 100                    | 0.6              | 1.6          | 15                       | 1.2             | 3.6          | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ16    |
| TP5360         | -40                  | -1.0                     | -1.0             | -20                      | -0.8                 | -4.0        | 15                     | 100                    | 1.5              | 3.0          | 15                       | 1.4             | 4.2          | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ16    |
| TP5361         | -40                  | -1.0                     | -1.0             | -20                      | -1.0                 | -6.0        | 15                     | 100                    | 2.5              | 5.0          | 15                       | 1.5             | 4.5          | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ16    |
| TP5362         | -40                  | -1.0                     | -1.0             | -20                      | -2.0                 | -7.0        | 15                     | 100                    | 4.0              | 8.0          | 15                       | 2.0             | 5.5          | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ32    |
| TP5363         | -40                  | -1.0                     | -1.0             | -20                      | -2.5                 | -8.0        | 15                     | 100                    | 7.0              | 14           | 15                       | 2.5             | 6.0          | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ32    |
| TP5364         | -40                  | -1.0                     | -1.0             | -20                      | -2.5                 | -8.0        | 15                     | 100                    | 9.0              | 18           | 15                       | 2.7             | 6.5          | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ32    |
| TP5397         | -25                  | -1.0                     | -1.0             | -15                      | -1.0                 | -6.0        | 10                     | 1.0                    | 10               | 30           | 10                       | 6.0             | 10           | 10 <sup>4</sup>          | 5.0                           | 10 <sup>4</sup>          | 1.2                           | 10 <sup>4</sup>          | —                              | NJ26L   |
| TP5398         | -25                  | -1.0                     | -1.0             | -15                      | -1.0                 | -6.0        | 10                     | 1.0                    | 5.0              | 40           | 10                       | 5.5             | 10           | 10                       | 5.5                           | 10                       | 1.3                           | 10                       | —                              | NJ26L   |
| 2N5457         | -25                  | -10                      | -1.0             | -15                      | -0.5                 | -6.0        | 15                     | 10                     | 1.0              | 5.0          | 15                       | 1.0             | 5.0          | 15                       | 7.0                           | 15                       | 3.0                           | 15                       | —                              | NJ32    |
| 2N5458         | -25                  | -10                      | -1.0             | -15                      | -1.0                 | -7.0        | 15                     | 10                     | 2.0              | 9.0          | 15                       | 1.5             | 5.5          | 15                       | 7.0                           | 15                       | 3.0                           | 15                       | —                              | NJ32    |
| 2N5459         | -25                  | -10                      | -1.0             | -15                      | -2.0                 | -8.0        | 15                     | 10                     | 4.0              | 16           | 15                       | 2.0             | 6.0          | 15                       | 7.0                           | 15                       | 3.0                           | 15                       | —                              | NJ32    |
| 2N5484         | -25                  | -1.0                     | -1.0             | -20                      | -0.3                 | -3.0        | 15                     | 10                     | 1.0              | 5.0          | 15                       | 3.0             | 6.0          | 15                       | 5.0                           | 15                       | 1.2                           | 15                       | —                              | NJ26    |
| 2N5485         | -25                  | -1.0                     | -1.0             | -20                      | -0.5                 | -4.0        | 15                     | 10                     | 4.0              | 10           | 15                       | 3.5             | 7.0          | 15                       | 5.0                           | 15                       | 1.2                           | 15                       | —                              | NJ26    |
| 2N5486         | -25                  | -1.0                     | -1.0             | -20                      | -2.0                 | -6.0        | 15                     | 10                     | 8.0              | 20           | 15                       | 4.0             | 8.0          | 15                       | 5.0                           | 15                       | 1.2                           | 15                       | —                              | NJ26    |
| 2N5555         | -25                  | -10                      | -1.0             | -15                      | —                    | -12         | 12                     | 10                     | —                | —            | 15                       | —               | —            | —                        | 5.0                           | 15                       | 1.2                           | 10 <sup>3</sup>          | 150                            | NJ26    |
| TP5556         | -30                  | -1.0                     | -1.0             | -15                      | -0.2                 | -4.0        | 15                     | 1.0                    | 0.5              | 2.5          | 15                       | 1.5             | 6.5          | 15                       | 6.0                           | 15                       | 3.0                           | 15                       | —                              | NJ16    |
| TP5557         | -30                  | -1.0                     | -1.0             | -15                      | -0.8                 | -5.0        | 15                     | 1.0                    | 2.0              | 5.0          | 15                       | 1.5             | 6.5          | 15                       | 6.0                           | 15                       | 3.0                           | 15                       | —                              | NJ16    |
| TP5558         | -30                  | -1.0                     | -1.0             | -15                      | -1.5                 | -6.0        | 15                     | 1.0                    | 4.0              | 10           | 15                       | 1.5             | 6.5          | 15                       | 6.0                           | 15                       | 3.0                           | 15                       | —                              | NJ16    |
| 2N5638         | -30                  | -1.0                     | -1.0             | -15                      | —                    | -12         | 15                     | 1.0                    | 50               | —            | 20                       | —               | —            | —                        | 10                            | -12 <sup>3</sup>         | 4.0                           | -12 <sup>3</sup>         | 30                             | NJ132   |
| 2N5639         | -30                  | -1.0                     | -1.0             | -15                      | —                    | -8.0        | 15                     | 1.0                    | 25               | —            | 20                       | —               | —            | —                        | 10                            | -12 <sup>3</sup>         | 4.0                           | -12 <sup>3</sup>         | 60                             | NJ99    |
| 2N5640         | -30                  | -1.0                     | -1.0             | -15                      | —                    | -6.0        | 15                     | 1.0                    | 5.0              | —            | 20                       | —               | —            | —                        | 10                            | -12 <sup>3</sup>         | 4.0                           | -12 <sup>3</sup>         | 100                            | NJ99    |
| 2N5653         | -30                  | -1.0                     | -1.0             | -15                      | —                    | -12         | 15                     | 1.0                    | 40               | —            | 20                       | —               | —            | —                        | 10                            | -12 <sup>3</sup>         | 3.5                           | -12 <sup>3</sup>         | 50                             | NJ99    |
| 2N5654         | -25                  | -1.0                     | -1.0             | -15                      | —                    | -8.0        | 15                     | 1.0                    | 15               | —            | 20                       | —               | —            | —                        | 10                            | -8.0 <sup>3</sup>        | 3.5                           | -8.0 <sup>3</sup>        | 100                            | NJ99    |
| TP5668         | -25                  | -10                      | -1.0             | -15                      | -0.2                 | -4.0        | 15                     | 10                     | 1.0              | 5.0          | 15                       | 1.0             | —            | 15                       | 7.0                           | 15                       | 3.0                           | 15                       | —                              | NJ16    |
| TP5669         | -25                  | -10                      | -1.0             | -15                      | -1.0                 | -6.0        | 15                     | 10                     | 4.0              | 10           | 15                       | 1.6             | —            | 15                       | 7.0                           | 15                       | 3.0                           | 15                       | —                              | NJ32    |
| TP5670         | -25                  | -10                      | -1.0             | -15                      | -2.0                 | -8.0        | 15                     | 10                     | 8.0              | 20           | 15                       | 2.0             | —            | 15                       | 7.0                           | 15                       | 3.0                           | 15                       | —                              | NJ32    |
| TP5949         | -30                  | -1.0                     | -1.0             | -15                      | -3.0                 | -7.0        | 15                     | 100                    | 12               | 18           | 15                       | 3.0             | —            | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ32    |
| TP5950         | -30                  | -1.0                     | -1.0             | -15                      | -2.5                 | -6.0        | 15                     | 100                    | 10               | 15           | 15                       | 3.0             | —            | 15                       | 6.0                           | 15                       | 2.0                           | 15                       | —                              | NJ32    |

## NOTES:

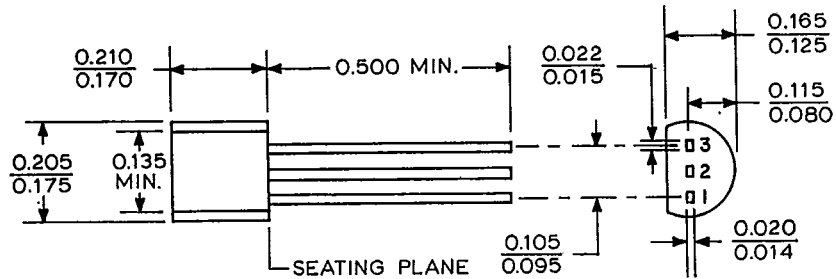
- 1)  $V_{GS} = 0$  V.
- 2)  $I_D$  in  $\mu\text{A}$ .
- 3)  $V_{DS} = 0$  V,  $V_{GS}$  in volts.
- 4)  $I_D = 10$  mA.
- 5)  $I_D = 5.0$  mA.
- 6)  $I_D = 1.0$  mA.
- 7)  $I_D = 500$   $\mu\text{A}$ .
- 8)  $I_D = 200$   $\mu\text{A}$ .

T-91-20

## PACKAGE INFORMATION

## TO-226AA/STYLES CG AND CO

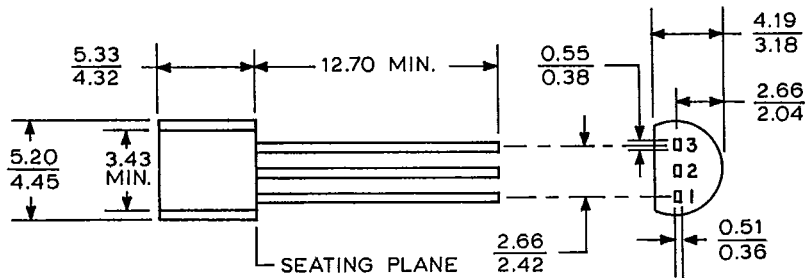
## DIMENSIONS IN INCHES



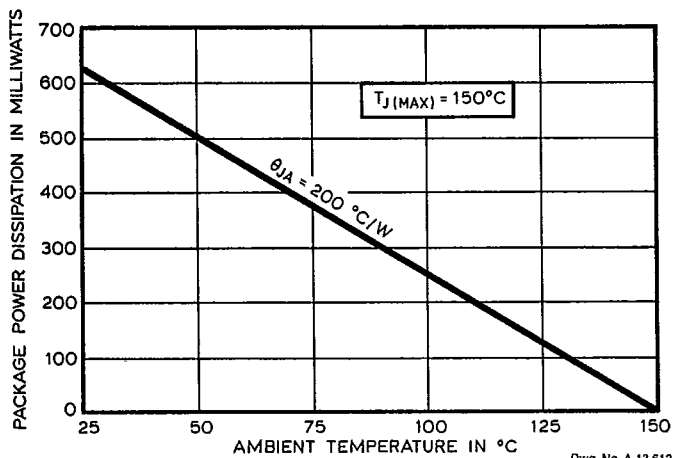
Dwg No A-13.610

## DIMENSIONS IN MILLIMETERS

Based on 1" = 25.4 mm



Dwg. No. A-13.611

MAXIMUM ALLOWABLE PACKAGE POWER DISSIPATION  
AS A FUNCTION OF AMBIENT TEMPERATURE

Dwg No A-13.612



## CG PINOUT

| Pin | Terminal |
|-----|----------|
| 1   | Drain    |
| 2   | Source   |
| 3   | Gate     |

## CO PINOUT

| Pin | Terminal |
|-----|----------|
| 1   | Source   |
| 2   | Drain    |
| 3   | Gate     |