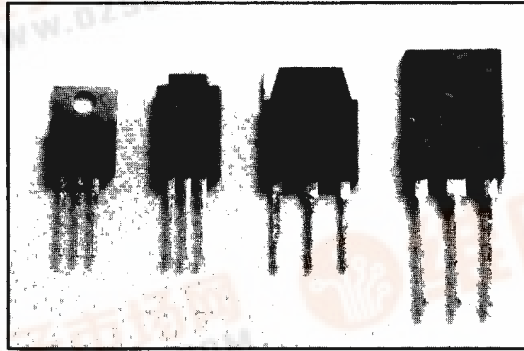


COLLMER SEMICONDUCTOR INC 48E D ■ 2238792 0001802 064 ■ COL



T-39-13

MOSFET Transistors

Power MOSFET Advantages:

- F-I Series Low RDS (on)
- F-II Series VGS +/- 30V Reduced turn off time
- FAP-II Series High avalanche ruggedness VGS +/- 30V, Reduced turn off time
- F-III Series Logic level operation, low RDS (on), high gfs
- F-V Series High diode di/dt rating, fast diode recovery time, 100 nsec, improved turn on loss.

Power MOSFETs are used on:

- Switching power supplies
- Motor speed controls
- DC/DC converters
- Inverters
- Uninterruptible power supplies
- Flicker free data monitors
- Electronic ballasts
- Battery chargers

FUJI Semiconductors • Imported and Distributed by
Collmer Semiconductor, Inc.

14368 PROTON RD • DALLAS, TEXAS 75244 • 214/233-1589
FAX 214/233-0481



F-I Series 50-900 Volts

| Device Type | Ratings | | | Characteristics | | | | Package |
|-------------|----------------------|--------------------|--------------------|--------------------------------|----------------------------|-----------------------------|------------------------------|-------------|
| | V _{DSS} (V) | I _D (A) | P _D (W) | R _{DS(ON)} (Ω) (max.) | g _{fs} (S) (typ.) | t _{on} (ns) (max.) | t _{off} (ns) (max.) | |
| 2SK905 | 50 | 45 | 125 | 0.03 | 25 | 240 | 800 | TO3P |
| 2SK1134 | 50 | 45 | 80 | 0.03 | 25 | 255 | 800 | TO3PF |
| 2SK905A | 60 | 39 | 125 | 0.04 | 25 | 60 | 500 | TO3P |
| 2SK906 | 100 | 32 | 125 | 0.06 | 20 | 180 | 680 | TO3P |
| 2SK906A | 120 | 30 | 125 | 0.07 | 20 | 60 | 500 | TO3P |
| 2SK900 | 250 | 12 | 80 | 0.30 | 9 | 120 | 390 | TO220 |
| 2SK947 | 250 | 12 | 40 | 0.30 | 9 | 120 | 390 | TO220F |
| 2SK948 | 250 | 12 | 100 | 0.30 | 9 | 120 | 390 | TO3P |
| 2SK901 | 250 | 20 | 125 | 0.15 | 15 | 160 | 780 | TO3P |
| 2SK1549 | 250 | 20 | 80 | 0.15 | 15 | 160 | 780 | TO3PF |
| 2SK902 | 250 | 30 | 150 | 0.10 | 20 | 310 | 1550 | TO3P |
| 2SK901A | 270 | 20 | 125 | 0.19 | 15 | 160 | 780 | TO3P |
| 2SK902A | 270 | 30 | 150 | 0.13 | 20 | 310 | 550 | TO3P |
| 2SK949 | 500 | 6 | 40 | 1.20 | 7 | 100 | 360 | TO220F |
| 2SK950 | 500 | 6 | 80 | 1.20 | 7 | 100 | 360 | TO220 |
| 2SK723 | 500 | 7 | 125 | 1.10 | 7 | 65 | 240 | TO3P |
| 2SK724 | 500 | 10 | 100 | 0.67 | 10 | 195 | 570 | TO3P |
| 2SK1099 | 500 | 10 | 80 | 0.67 | 10 | 195 | 570 | TO3PF |
| 2SK725 | 500 | 15 | 125 | 0.38 | 16 | 195 | 570 | TO3P |
| 2SK899 | 500 | 18 | 125 | 0.33 | 16 | 195 | 570 | TO3P |
| 2SK897 | 550 | 4 | 40 | 1.50 | 5 | 100 | 360 | TO220F |
| 2SK725A | 550 | 15 | 125 | 0.45 | 16 | 75 | 430 | TO3P |
| 2SK1550 | 600 | 4 | 40 | 1.80 | 5 | 40 | 270 | TO220F |
| 2SK1662M | 700 | 3 | 40 | 5.50 | 2 | 83 | 203 | TO220F15 |
| 2SK903 | 800 | 3 | 40 | 4.00 | 4 | 90 | 340 | TO220F |
| 2SK904 | 800 | 3 | 80 | 4.00 | 4 | 90 | 340 | TO220 |
| 2SK954 | 800 | 3 | 100 | 4.00 | 4 | 90 | 340 | TO3P |
| 2SK1105 | 800 | 3 | 80 | 4.00 | 4 | 90 | 340 | TO3PF |
| 2SK1663 | 800 | 3 | 80 | 4.00 | 4 | 90 | 340 | T-PACK L,S, |
| 2SK1384 | 800 | 5 | 80 | 2.00 | 6 | 170 | 630 | TO3PF |
| 2SK955 | 800 | 5 | 125 | 2.00 | 6 | 170 | 630 | TO3P |
| 2SK960 | 900 | 3 | 40 | 5.00 | 4 | 90 | 340 | TO220F |
| 2SK961 | 900 | 3 | 80 | 5.00 | 4 | 90 | 340 | TO220 |
| 2SK726 | 900 | 3 | 100 | 5.00 | 4 | 90 | 340 | TO3P |
| 2SK1659 | 900 | 3 | 80 | 5.00 | 4 | 30 | 250 | T-PACK L,S, |
| 2SK727 | 900 | 5 | 125 | 2.50 | 6 | 170 | 630 | TO3P |
| 2SK1212 | 900 | 5 | 80 | 2.50 | 6 | 170 | 630 | TO3PF |

F-II Series 250/450/500/600 Volts

| | | | | | | | | |
|---------|-----|-----|-----|------|------|-----|------|-------------|
| 2SK1221 | 250 | 10 | 80 | 0.40 | 4.5 | 90 | 225 | TO220 |
| 2SK1006 | 450 | 5 | 40 | 1.60 | 3.0 | 95 | 200 | TO220F |
| 2SK1007 | 450 | 5 | 60 | 1.60 | 3.0 | 95 | 200 | TO220 |
| 2SK1009 | 450 | 7 | 80 | 1.30 | 4.0 | 110 | 200 | TO220 |
| 2SK1386 | 450 | 7 | 100 | 1.30 | 4.0 | 110 | 200 | TO3P |
| 2SK1101 | 450 | 10 | 50 | 0.65 | 6.5 | 165 | 360 | TO220F |
| 2SK1011 | 450 | 10 | 100 | 0.65 | 6.5 | 165 | 360 | TO3P |
| 2SK1660 | 450 | 10 | 80 | 0.65 | 6.5 | 45 | 240 | TO3PF |
| 2SK1013 | 450 | 13 | 125 | 0.60 | 8.0 | 215 | 370 | TO3P |
| 2SK1222 | 450 | 15 | 125 | 0.55 | 8.0 | 215 | 370 | TO3P |
| 2SK1015 | 450 | 18 | 125 | 0.45 | 10.0 | 260 | 500 | TO3P |
| 2SK1017 | 450 | 20 | 150 | 0.35 | 14.0 | 375 | 740 | TO3P |
| 2SK1019 | 450 | 35 | 300 | 0.20 | 20.0 | 540 | 1350 | TO3PL |
| 2SK1008 | 500 | 4.5 | 60 | 2.20 | 3.0 | 95 | 200 | TO220 |
| 2SK1010 | 500 | 6 | 80 | 1.60 | 4.0 | 110 | 200 | TO220 |
| 2SK1102 | 500 | 10 | 50 | 0.90 | 6.5 | 165 | 360 | TO220F |
| 2SK1503 | 500 | 10 | 80 | 0.90 | 6.5 | 165 | 360 | TO220 |
| 2SK1504 | 500 | 10 | 80 | 0.90 | 6.5 | 45 | 240 | T-PACK L,S, |
| 2SK1012 | 500 | 10 | 100 | 0.90 | 6.5 | 165 | 360 | TO3P |
| 2SK1014 | 500 | 12 | 125 | 0.74 | 8.0 | 215 | 370 | TO3P |
| 2SK1016 | 500 | 15 | 125 | 0.55 | 10.0 | 260 | 500 | TO3P |
| 2SK1018 | 500 | 18 | 125 | 0.45 | 10.0 | 260 | 500 | TO3P |
| 2SK1020 | 500 | 30 | 300 | 0.25 | 20.0 | 540 | 1350 | TO3PL |

F-II Series 800/900/1000 Volts

| Device Type | Ratings | | | Characteristics | | | | Package |
|-------------|----------------------|--------------------|--------------------|--------------------------------|----------------------------|-----------------------------|------------------------------|-------------|
| | V _{DSS} (V) | I _D (A) | P _D (W) | R _{DS(ON)} (Ω) (max.) | g _{fs} (S) (typ.) | t _{on} (ns) (max.) | t _{off} (ns) (max.) | |
| 2SK951 | 800 | 2.5 | 40 | 7.00 | 1.8 | 90 | 170 | TO220F |
| 2SK952 | 800 | 2.5 | 45 | 7.00 | 1.8 | 90 | 170 | TO220 |
| 2SK953 | 800 | 2.5 | 80 | 7.00 | 1.8 | 90 | 170 | TO3P |
| 2SK1211 | 800 | 2.5 | 40 | 7.00 | 1.8 | 90 | 170 | TO3PF |
| 2SK1021 | 800 | 3 | 60 | 6.00 | 2.0 | 128 | 240 | TO220 |
| 2SK1545 | 800 | 3 | 40 | 6.00 | 2.0 | 128 | 240 | TO220F |
| 2SK1023 | 800 | 4 | 60 | 4.50 | 4.0 | 145 | 255 | TO220 |
| 2SK1224 | 800 | 4 | 50 | 4.50 | 4.0 | 145 | 255 | TO3PF |
| 2SK1171 | 800 | 4 | 80 | 4.50 | 4.0 | 145 | 255 | TO3P |
| 2SK1547 | 800 | 4 | 40 | 4.50 | 4.0 | 145 | 255 | TO220F |
| 2SK1081 | 800 | 7 | 125 | 2.20 | 4.5 | 225 | 380 | TO3P |
| 2SK1385 | 800 | 9 | 100 | 1.50 | 6.0 | 425 | 690 | TO3PF |
| 2SK956 | 800 | 9 | 150 | 1.50 | 6.0 | 425 | 690 | TO3P |
| 2SK957 | 900 | 2 | 40 | 8.50 | 1.8 | 90 | 170 | TO220F |
| 2SK958 | 900 | 2 | 45 | 8.50 | 1.8 | 90 | 170 | TO220 |
| 2SK959 | 900 | 2 | 80 | 8.50 | 1.8 | 90 | 170 | TO3P |
| 2SK1022 | 900 | 2.5 | 60 | 7.30 | 2.0 | 128 | 240 | TO220 |
| 2SK1546 | 900 | 2.5 | 40 | 7.30 | 2.0 | 128 | 240 | TO220F |
| 2SK1024 | 900 | 3.5 | 60 | 5.50 | 4.0 | 145 | 255 | TO220 |
| 2SK1172 | 900 | 3.5 | 80 | 5.50 | 4.0 | 145 | 255 | TO3P |
| 2SK1510 | 900 | 3.5 | 60 | 5.50 | 4.0 | 45 | 165 | T-PACK L.S. |
| 2SK1548 | 900 | 3.5 | 40 | 5.50 | 4.0 | 45 | 165 | TO220F |
| 2SK1082 | 900 | 6 | 125 | 2.80 | 4.5 | 225 | 380 | TO3P |
| 2SK962 | 900 | 8 | 150 | 2.00 | 6.0 | 425 | 690 | TO3P |
| 2SK1217 | 900 | 8 | 100 | 2.00 | 6.0 | 425 | 690 | TO3PF |

F-III Series Logic Level

| Device Type | Ratings | | | Characteristics | | | | | Package |
|-------------|----------------------|--------------------|--------------------|--------------------------------|----------------------|----------------------------|-----------------------------|------------------------------|-------------|
| | V _{DSS} (V) | I _D (A) | P _D (W) | R _{DS(ON)} (Ω) (max.) | | g _{fs} (S) (typ.) | t _{on} (ns) (max.) | t _{off} (ns) (max.) | |
| | | | | V _{GS} =4V | V _{GS} =10V | | | | |
| 2SK1505 | 30 | 35 | 40 | 0.037 | 0.022 | 17.0 | 238 | 720 | TO220F |
| 2SK1388 | 30 | 35 | 60 | 0.037 | 0.022 | 17.0 | 188 | 720 | TO220 |
| 2SK1083 | 60 | 8 | 20 | 0.350 | 0.220 | 6.0 | 55 | 105 | TO220F |
| 2SK1096M | 60 | 13 | 30 | 0.190 | 0.120 | 11.0 | 15 | 120 | TO220F15 |
| 2SK1086 | 60 | 20 | 35 | 0.110 | 0.070 | 15.0 | 75 | 310 | TO220F |
| 2SK1387 | 60 | 35 | 40 | 0.056 | 0.035 | 18.0 | 99 | 760 | TO220F |
| 2SK1089 | 60 | 35 | 80 | 0.056 | 0.035 | 18.0 | 99 | 760 | TO3P |
| 2SK1508 | 60 | 35 | 60 | 0.056 | 0.035 | 18.0 | 9 | 530 | TO220 |
| 2SK1815 | 60 | 35 | 50 | 0.056 | 0.035 | 18.0 | 9 | 530 | TO3PF |
| 2SK1389 | 60 | 50 | 125 | 0.040 | 0.025 | 36.0 | 230 | 850 | TO3P |
| 2SK1390 | 60 | 50 | 80 | 0.040 | 0.025 | 36.0 | 230 | 850 | TO3PF |
| 2SK1084 | 100 | 5 | 20 | 0.700 | 0.500 | 4.5 | 53 | 85 | TO220F |
| 2SK1097 | 100 | 8 | 30 | 0.390 | 0.280 | 7.0 | 60 | 170 | TO220F |
| 2SK1087 | 100 | 12 | 35 | 0.240 | 0.170 | 10.0 | 93 | 320 | TO220F |
| 2SK1817 | 100 | 20 | 40 | 0.120 | 0.080 | 20.0 | 8 | 530 | TO220F15 |
| 2SK1090 | 100 | 20 | 80 | 0.120 | 0.080 | 20.0 | 83 | 680 | TO3P |
| 2SK1509 | 100 | 20 | 60 | 0.120 | 0.080 | 20.0 | 83 | 680 | TO220 |
| 2SK1085 | 150 | 3 | 20 | 1.170 | 0.900 | 3.0 | 50 | 120 | TO220F |
| 2SK1098 | 150 | 6 | 30 | 0.650 | 0.500 | 6.0 | 75 | 170 | TO220F |
| 2SK1088 | 150 | 9 | 35 | 0.400 | 0.300 | 10.0 | 75 | 275 | TO220F |
| 2SK1091 | 150 | 15 | 80 | 0.200 | 0.150 | 18.0 | 83 | 680 | TO3P |
| 2SK1661 | 250 | 20 | 80 | 0.165 | 0.150 | 25.0 | 45 | 750 | T-PACK L.S. |

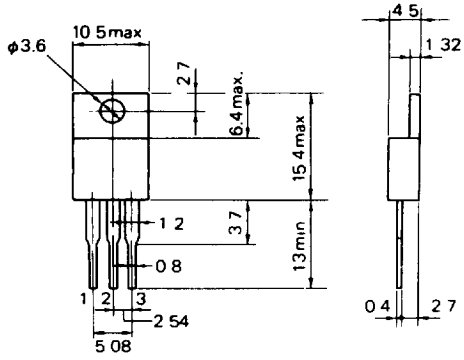
F-V Series (FRED MOSFETs)

| | | | | | | | | |
|---------|-----|----|-----|------|------|-----|-----|------|
| 2SK1276 | 250 | 20 | 100 | 0.20 | 12.0 | 125 | 450 | TO3P |
| 2SK1277 | 250 | 30 | 150 | 0.12 | 20.0 | 260 | 900 | TO3P |
| 2SK1278 | 500 | 10 | 100 | 1.10 | 8.0 | 130 | 440 | TO3P |
| 2SK1279 | 500 | 15 | 125 | 0.58 | 13.0 | 195 | 840 | TO3P |
| 2SK1280 | 500 | 18 | 150 | 0.50 | 15.0 | 270 | 720 | TO3P |

FAP-II Series (High Avalanche Ruggedness)

| Device Type | Ratings | | | Characteristics | | | | Package |
|-------------|----------------------|--------------------|--------------------|--------------------------------|----------------------------|-----------------------------|------------------------------|-------------|
| | V _{DSS} (V) | I _D (A) | P _D (W) | R _{DS(ON)} (Ω) (max.) | g _{fs} (S) (typ.) | t _{on} (ns) (max.) | t _{off} (ns) (max.) | |
| 2SK1819-01M | 450 | 5 | 35 | 1.50 | 4.2 | 40 | 170 | TO220F |
| 2SK1009-01 | 450 | 7 | 80 | 1.30 | 4.0 | 110 | 200 | TO220 |
| 2SK1008-01 | 500 | 4.5 | 60 | 2.20 | 3.0 | 95 | 200 | TO220 |
| 2SK1010-01 | 500 | 6 | 80 | 1.60 | 4.0 | 110 | 200 | TO220 |
| 2SK1012-01 | 500 | 10 | 100 | 0.90 | 6.5 | 165 | 360 | TO3P |
| 2SK1503-01 | 500 | 10 | 80 | 0.90 | 6.5 | 45 | 240 | TO220 |
| 2SK1504-01 | 500 | 10 | 80 | 0.90 | 6.5 | 45 | 240 | T-PACK L.S. |
| 2SK1102-01 | 500 | 10 | 50 | 0.90 | 6.5 | 45 | 240 | TO220F |
| 2SK1014-01 | 500 | 12 | 125 | 0.74 | 8.0 | 215 | 370 | TO3P |
| 2SK1016-01 | 500 | 15 | 125 | 0.55 | 10.0 | 260 | 500 | TO3P |
| 2SK1018-01 | 500 | 18 | 125 | 0.45 | 10.0 | 260 | 500 | TO3P |
| 2SK1821-01M | 600 | 2 | 30 | 6.50 | 1.8 | 6 | 40 | TO220F |
| 2SK1507-01 | 600 | 9 | 50 | 1.00 | 6.0 | 45 | 240 | TO220F |
| 2SK1554-01 | 650 | 3 | 30 | 4.50 | 3.0 | 90 | 188 | TO220F |
| 2SK1553-01 | 650 | 5 | 40 | 2.50 | 5.0 | 85 | 280 | TO220F |
| 2SK951-01 | 800 | 2.5 | 40 | 7.00 | 1.8 | 90 | 170 | TO220F |
| 2SK952-01 | 800 | 2.5 | 45 | 7.00 | 1.8 | 30 | 90 | TO220 |
| 2SK953-01 | 800 | 2.5 | 80 | 7.00 | 1.8 | 30 | 90 | TO3P |
| 2SK1211-01 | 800 | 2.5 | 40 | 5.00 | 1.8 | 30 | 90 | TO3PF |
| 2SK1023-01 | 800 | 4 | 60 | 4.50 | 4.0 | 145 | 255 | TO220 |
| 2SK1171-01 | 800 | 4 | 80 | 4.50 | 4.0 | 145 | 255 | TO3P |
| 2SK1547-01 | 800 | 4 | 40 | 4.50 | 4.0 | 145 | 255 | TO220F |
| 2SK1224-01 | 800 | 4 | 50 | 4.50 | 4.0 | 45 | 165 | TO3PF |
| 2SK1081-01 | 800 | 7 | 125 | 2.20 | 4.5 | 225 | 380 | TO3P |
| 2SK956-01 | 800 | 9 | 150 | 1.50 | 6.0 | 425 | 690 | TO3P |
| 2SK1385-01 | 800 | 9 | 100 | 1.50 | 6.0 | 75 | 450 | TO3PF |
| 2SK957-01 | 900 | 2 | 40 | 8.50 | 1.8 | 90 | 170 | TO220F |
| 2SK958-01 | 900 | 2 | 45 | 8.50 | 1.8 | 30 | 90 | TO220 |
| 2SK959-01 | 900 | 2 | 80 | 8.50 | 1.8 | 30 | 90 | TO3P |
| 2SK1548-01 | 900 | 3.5 | 40 | 5.50 | 4.0 | 145 | 255 | TO220F |
| 2SK1024-01 | 900 | 3.5 | 60 | 5.50 | 4.0 | 145 | 255 | TO220 |
| 2SK1172-01 | 900 | 3.5 | 80 | 5.50 | 4.0 | 145 | 255 | TO3P |
| 2SK1510-01 | 900 | 3.5 | 60 | 5.50 | 4.0 | 45 | 165 | T-PACK L.S. |
| 2SK1082-01 | 900 | 6 | 125 | 2.80 | 4.5 | 225 | 380 | TO3P |
| 2SK962-01 | 900 | 8 | 150 | 2.00 | 6.0 | 425 | 690 | TO3P |
| 2SK1217-01 | 900 | 8 | 100 | 2.00 | 6.0 | 75 | 450 | TO3PF |
| 2SK1512 | 900 | 10 | 150 | 1.20 | 6.0 | 240 | 525 | TO3P |
| 2SK1511 | 1000 | 5 | 100 | 3.00 | 3.0 | 121 | 285 | TO3P |

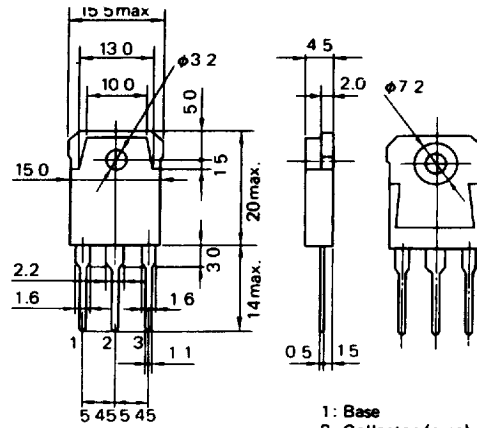
TO-220



- 1 Base
- 2 Collector (case)
- 3 Emitter

Mounting torque: 3-5kg-cm

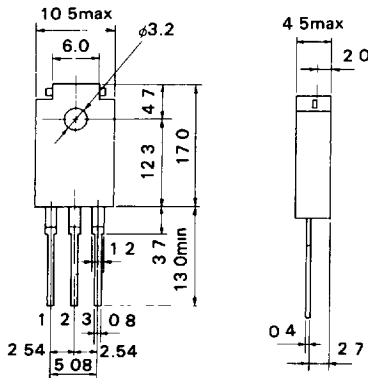
TO-3P



- 1: Base
- 2: Collector (case)
- 3: Emitter

Mounting torque: 4-6kg-cm

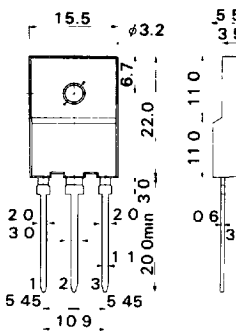
TO-220F (Full molded package)



- 1 Base
- 2 Collector
- 3 Emitter

Mounting torque: 3-5kg-cm

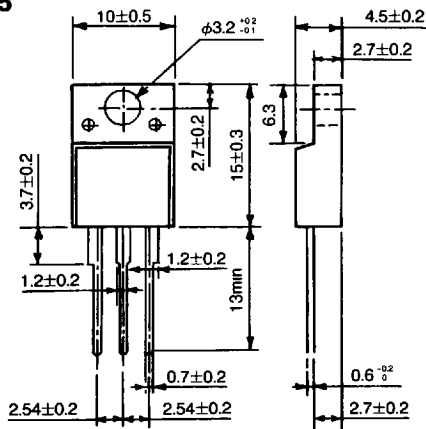
TO-3PF (Full molded package)



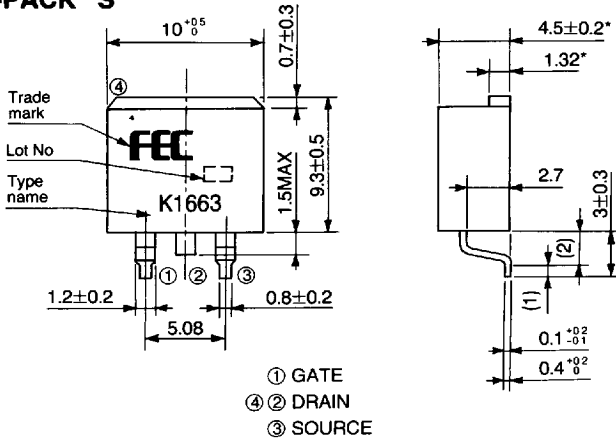
- 1 Base
- 2 Collector
- 3 Emitter

Mounting torque 4-6kg-cm

TO220F15

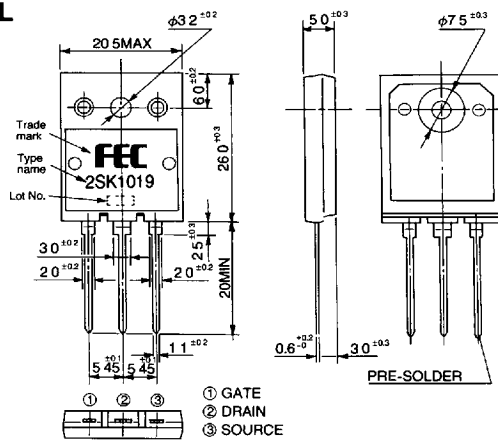


T-PACK "S"



- ① GATE
- ④ ② DRAIN
- ③ SOURCE

TO-3PL

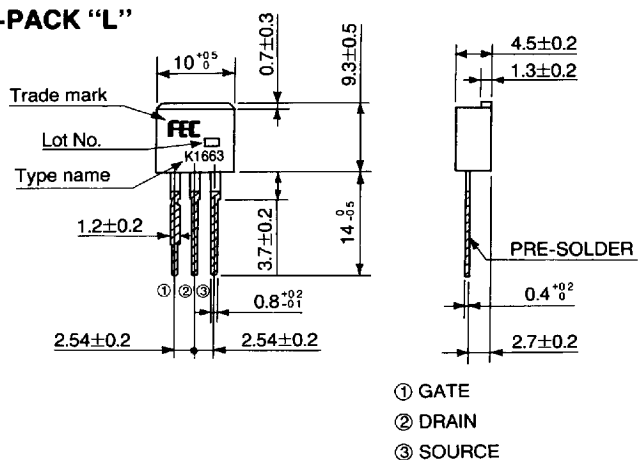


Trade mark
Type name
Lot No.

FEC
2SK1019

- ① GATE
- ② DRAIN
- ③ SOURCE

T-PACK "L"



- ① GATE
- ② DRAIN
- ③ SOURCE