

Selection Guide

By V_{CES}

| V_{CES} (V) | I_c (A) | P_c (W) | Part Number | Package |
|------------------|--------------|--------------|-------------|--------------|
| 330 | 20 | 35 | FGT312 | TO220F(FM20) |
| 330 | 30 | 35 | FGT313 | TO220F(FM20) |
| 400 | 20 | 35 | FGT412 | TO220F(FM20) |
| 600 | 20 | 35 | FGT612 | TO220F(FM20) |
| 600 | 25 | 60 | FGM622S | TO3PF(FM100) |
| 600 | 30 | 60 | FGM603 | TO3PF(FM100) |
| 600 | 30 | 60 | FGM623S | TO3PF(FM100) |
| 600 | 50 | 150 | MGD623N | TO3P(MT100) |
| 600 | 50 | 150 | MGD623S | TO3P(MT100) |

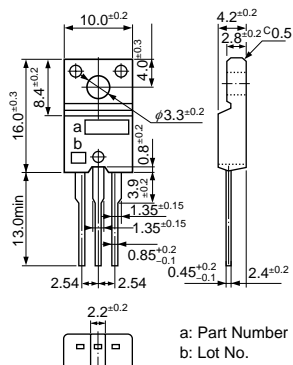
Specifications List by Part Number

| Part Number | Absolute Maximum Ratings (Ta=25°C) | | | | | Electrical Characteristics | | | | | | | | | | | | | | | | | |
|-------------|------------------------------------|------------------------|-----------------------|------------------------------|------------------------------------|----------------------------|------------------------|------------------|-----------------------|------------------------|------------|------------|------------|------------------------|------------------------|------------|------------|------------------|------------|------------------|----|------------------|--|
| | V _{CES} (V) | V _{GE} (V) | I _c (A) | I _{c(pulse)} (A) | P _c (Ta=25°C) (W) | I _{GES} | | I _{CES} | | V _{GE(th)} | | | | V _{CE(sat)} | | | | C _{ies} | | C _{oes} | | C _{res} | |
| | | | | | | Conditions | Conditions | Conditions | Conditions | Conditions | Conditions | Conditions | Conditions | Conditions | Conditions | Conditions | Conditions | Conditions | Conditions | Conditions | | | |
| | (nA) | V _{GE} (V) | (μA) | V _{CE} (V) | (V) | I _c (mA) | V _{CE} (V) | (V) | I _c (A) | V _{GE} (V) | (pF) | (pF) | (pF) | V _{CE} (V) | V _{GE} (V) | | | | | | | | |
| FGM603 | 600 | ±20 | 30 | 90 | 60 | ±100 | ±20 | 100 | 600 | 4 | 7 | 1 | 10 | 1.6 | 2.0 | 30 | 15 | 4600 | 110 | 80 | 20 | 0 | |
| FGM622S | 600 | ±30 | 25 | 75 | 60 | ±500 | ±30 | 100 | 600 | 4 | 7 | 1 | 10 | 1.7 | 1.9 | 25 | 15 | 1300 | 80 | 40 | 20 | 0 | |
| FGM623S | 600 | ±30 | 30 | 100 | 60 | ±500 | ±30 | 100 | 600 | 3 | 6 | 1 | 10 | 1.5 | 1.7 | 30 | 15 | 2500 | 150 | 80 | 20 | 0 | |
| FGT312 | 330 | ±30 | 20 | 120 | 35 | ±100 | ±30 | 100 | 330 | 3 | 6 | 1 | 10 | 1.3 | 1.7 | 20 | 15 | 1200 | 130 | 65 | 20 | 0 | |
| FGT313 | 330 | ±30 | 30 | 200 | 35 | ±100 | ±30 | 100 | 330 | 3 | 6 | 1 | 10 | 1.3 | 1.7 | 30 | 15 | 2400 | 110 | 60 | 30 | 0 | |
| FGT412 | 400 | ±30 | 20 | 120 | 35 | ±100 | ±30 | 100 | 400 | 3 | 6 | 1 | 10 | 1.4 | 1.8 | 20 | 15 | 1200 | 120 | 65 | 20 | 0 | |
| FGT612 | 600 | ±30 | 20 | 120 | 35 | ±100 | ±30 | 100 | 600 | 3 | 6 | 1 | 10 | 1.6 | 2.0 | 20 | 15 | 1200 | 80 | 40 | 20 | 0 | |
| MGD623N | 600 | ±30 | 50 | 100 | 150 | ±100 | ±30 | 100 | 600 | 3 | 6 | 1 | 10 | 1.7 | 2.3 | 50 | 15 | 2500 | 150 | 80 | 20 | 0 | |
| MGD623S | 600 | ±30 | 50 | 100 | 150 | ±100 | ±30 | 100 | 600 | 3 | 6 | 1 | 10 | 1.8 | 2.4 | 50 | 15 | 2500 | 150 | 80 | 20 | 0 | |

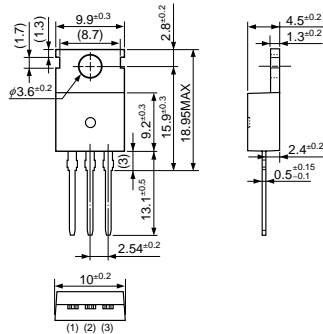
| Electrical Characteristics (Ta=25°C) | | | | | | | | | | | | | | | | | | | | Package | Mass (g) | |
|--------------------------------------|------|---------|------|------------|-----|--------|------|------|------|------------|-----|-----|-----|-----|------------|------|------------|--------|--|--------------|-------------|-------------|
| td(on) | tr | td(off) | tf | Conditions | | | Qg | Qge | Qgc | Conditions | | | VF | | Conditions | trr | Conditions | | | | | |
| (ns) | (ns) | (ns) | (ns) | Ic | VCE | | (nC) | (nC) | (nC) | Ic | VCE | VGE | (V) | | IF | (μs) | IF | di/dt | | | | |
| typ | typ | typ | typ | (A) | (V) | | typ | typ | typ | (A) | (V) | (V) | typ | max | (A) | typ | (A) | (A/μs) | | | | |
| 130 | 70 | 340 | 200 | 30 | 300 | L Load | 120 | 30 | 30 | 30 | 300 | 15 | | | | | | | | TO3PF(FM100) | 6.5 | |
| 50 | 60 | 200 | 120 | 25 | 300 | L Load | 40 | 10 | 10 | 25 | 300 | 15 | | | | | | | | TO3PF(FM100) | 6.5 | |
| 100 | 80 | 300 | 120 | 30 | 300 | L Load | 65 | 20 | 20 | 30 | 300 | 15 | | | | | | | | TO3PF(FM100) | 6.5 | |
| 15 | 30 | 55 | 210 | 20 | 150 | R Load | 35 | 8 | 10 | 20 | 150 | 15 | | | | | | | | TO220F(FM20) | 2.0 | |
| 20 | 90 | 90 | 180 | 60 | 250 | R Load | 65 | 10 | 20 | 60 | 250 | 15 | | | | | | | | TO220F(FM20) | 2.0 | |
| 15 | 35 | 55 | 220 | 20 | 200 | R Load | 35 | 8 | 10 | 20 | 200 | 15 | | | | | | | | TO220F(FM20) | 2.0 | |
| 25 | 60 | 70 | 190 | 20 | 300 | R Load | 35 | 6 | 9 | 20 | 300 | 15 | | | | | | | | TO220F(FM20) | 2.0 | |
| 75 | 70 | 250 | 200 | 50 | 300 | L Load | 65 | 15 | 20 | 50 | 300 | 15 | 1.2 | 1.6 | 30 | 0.3 | 30 | 100 | | TO3P(MT100) | 6.0 | Built-in Di |
| 75 | 70 | 250 | 120 | 50 | 300 | L Load | 65 | 15 | 20 | 50 | 300 | 15 | 1.2 | 1.6 | 30 | 0.3 | 30 | 100 | | TO3P(MT100) | 6.0 | Built-in Di |

Package Type (Dimensions)

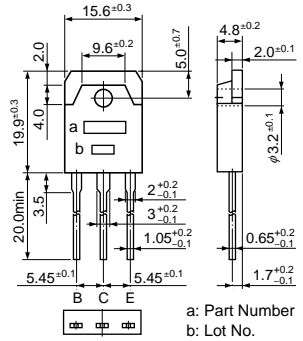
• TO-220F (FM20)



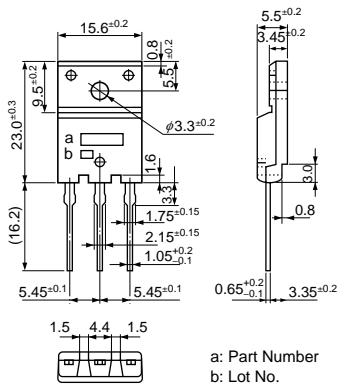
• TO-220 (MT-25)



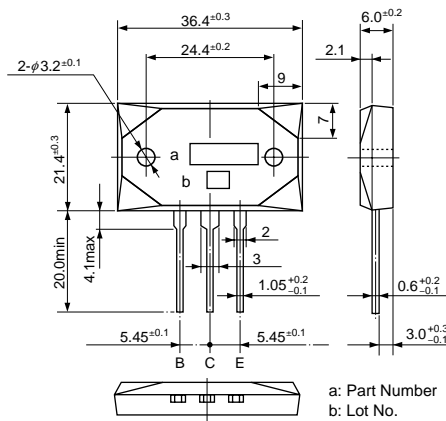
• TO-3P (MT-100)



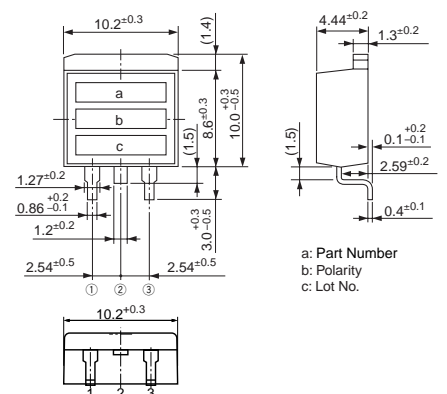
• TO-3PF (FM100)



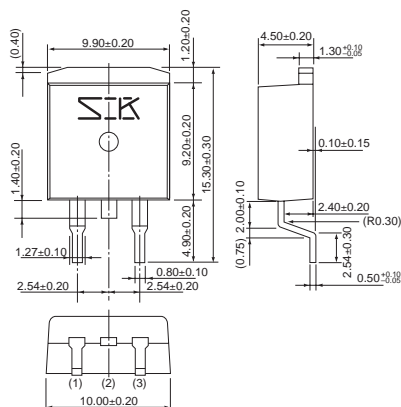
• MT-200



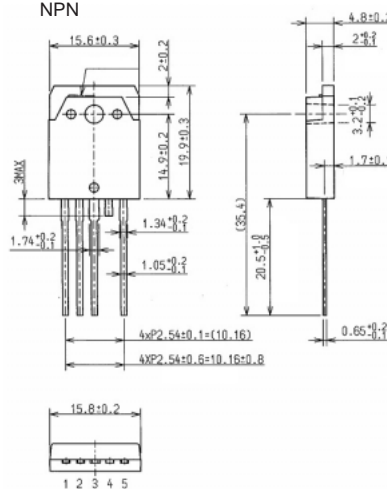
• TO-220S



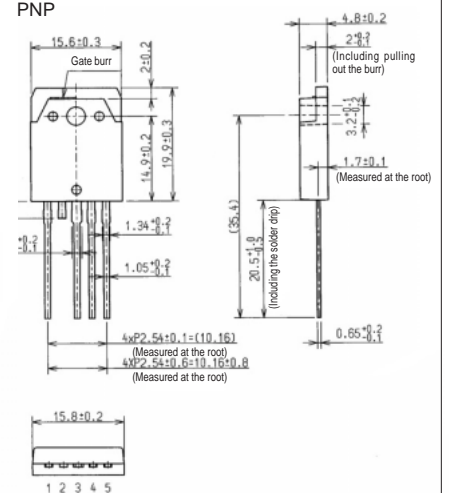
• TO-263



• TO3P-5Pin
NPN



PNP



(Unit : mm)