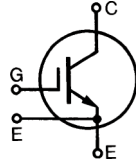
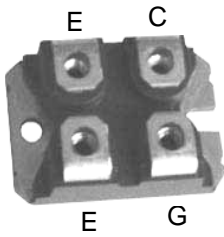


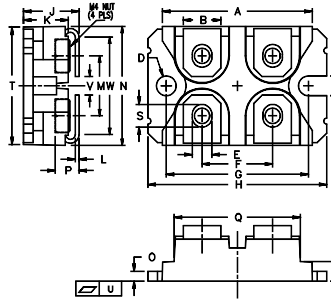
SG200N06S

Discrete IGBTs



G=Gate, C=Collector, E=Emitter

Dimensions SOT-227(ISOTOP)



| Dim. | Millimeter | | Inches | |
|------|------------|-------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 31.50 | 31.88 | 1.240 | 1.255 |
| B | 7.80 | 8.20 | 0.307 | 0.323 |
| C | 4.09 | 4.29 | 0.161 | 0.169 |
| D | 4.09 | 4.29 | 0.161 | 0.169 |
| E | 4.09 | 4.29 | 0.161 | 0.169 |
| F | 14.91 | 15.11 | 0.587 | 0.595 |
| G | 30.12 | 30.30 | 1.186 | 1.193 |
| H | 37.80 | 38.20 | 1.489 | 1.505 |
| J | 11.68 | 12.22 | 0.460 | 0.481 |
| K | 8.92 | 9.60 | 0.351 | 0.378 |
| L | 0.76 | 0.84 | 0.030 | 0.033 |
| M | 12.60 | 12.85 | 0.496 | 0.506 |
| N | 25.15 | 25.42 | 0.990 | 1.001 |
| O | 1.98 | 2.13 | 0.078 | 0.084 |
| P | 4.95 | 5.97 | 0.195 | 0.235 |
| Q | 26.54 | 26.90 | 1.045 | 1.059 |
| R | 3.94 | 4.42 | 0.155 | 0.174 |
| S | 4.72 | 4.85 | 0.186 | 0.191 |
| T | 24.59 | 25.07 | 0.968 | 0.987 |
| U | -0.05 | 0.1 | -0.002 | 0.004 |
| V | 3.30 | 4.57 | 0.130 | 0.180 |
| W | 0.780 | 0.830 | 0.030 | 0.033 |

| Symbol | Test Conditions | Maximum Ratings | Unit |
|---|---|--|-----------|
| V_{CES} V_{CGR} | T _J =25°C to 150°C T _J =25°C to 150°C; R _{GE} =1 MΩ; | 600 600 | V |
| V_{GES} V_{GEM} | Continuous Transient | ±20 ±30 | V |
| I_{C25} I_{C90} I_{CM} | T _C =25°C T _C =90°C T _C =25°C, 1 ms | 200 100 300 | A |
| SSOA (RBSOA) | V _{GE} =15V; T _{VJ} =125°C; R _G =22Ω Clamped inductive load, L=30uH | I _{CM} =100 @ 0.8 V _{CES} | A |
| P_c | T _C =25°C | 600 | W |
| T_J T_{JM} T_{stg} | | -55...+150 150 -55...+150 | °C |
| V_{ISOL} | 50/60Hz t = 1 min I _{ISOL} ≤ 1 mA t = 1 s | 2500 3000 | V~ |
| M_d | Mounting torque Terminal connection torque(M4) | 1.5/13 1.5/13 | Nm/lb.in. |
| Weight | | 30 | g |

(T_J=25°C, unless otherwise specified)

| Symbol | Test Conditions | Characteristic Values | | | Unit |
|----------------------------|---|-----------------------|------|----------|----------|
| | | min. | typ. | max. | |
| BV_{CES} | I _C =250uA; V _{GE} =0V | 600 | | | V |
| V_{GE(th)} | I _C =10mA; V _{CE} =V _{GE} | 2.5 | | 6 | V |
| I_{CES} | V _{CE} =0.8V _{CES} ; T _J =25°C V _{GE} =0V; T _J =125°C | | | 200 2 | uA mA |
| I_{GES} | V _{CE} =0V; V _{GE} =±20V | | | ±400 | nA |
| V_{CE(sat)} | I _C =I _{C90} ; V _{GE} =15V | | | 2.5 | V |

SG200N06S

Discrete IGBTs

(T_J=25°C, unless otherwise specified)

| Symbol | Test Conditions | Characteristic Values | | | Unit |
|--|---|-----------------------|---|-------------|----------------------------------|
| | | min. | typ. | max. | |
| g _{ts} | I _C =60A; V _{CE} =10V Pulse test, t ≤ 300us, duty cycle ≤ 2% | 40 | 57 | | S |
| C _{ies} C _{oes} C _{res} | V _{CE} =25V; V _{GE} =0V; f=1MHz | | 9000 600 305 | | pF |
| Q _g Q _{ge} Q _{gc} | I _C =I _{C90} ; V _{GE} =15V; V _{CE} =0.5V _{CEs} | | 465 52 228 | | nC |
| t _{d(on)} t _{ri} E _{on} t _{d(off)} t _{fi} E _{off} | Inductive load, T _J =25°C I _C =I _{C90} ; V _{GE} =15V; L=30uH V _{CE} =0.8V _{CEs} ; R _G =R _{off} =2.4 Ω Remarks: Switching times may increase for V _{CE} (Clamp) > 0.8V _{CEs} ; higher T _J or increased R _G | | 100 100 2.4 800 350 14.4 | 1100 500 | ns ns mJ ns ns mJ |
| t _{d(on)} t _{ri} E _{on} t _{d(off)} t _{fi} E _{off} | Inductive load, T _J =125°C I _C =I _{C90} ; V _{GE} =15V; L=30uH V _{CE} =0.8V _{CEs} ; R _G =R _{off} =2.4 Ω Remarks: Switching times may increase for V _{CE} (Clamp) > 0.8V _{CEs} ; higher T _J or increased R _G | | 100 200 4.8 780 250 14.4 | | ns ns mJ ns ns mJ |
| R _{thJC} | | | | 0.21 | K/W |
| R _{thCK} | | | 0.05 | | K/W |