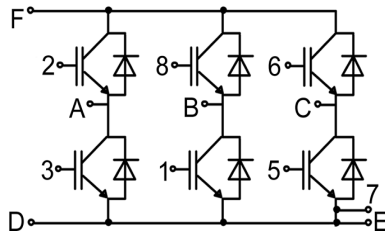
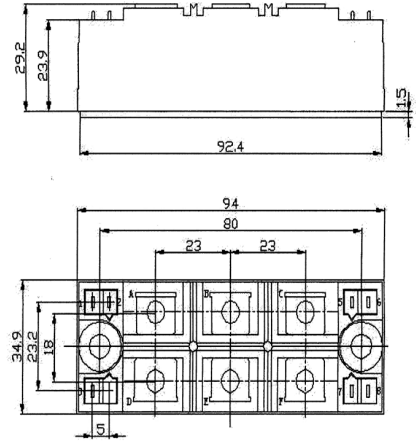


6SI75N12

NPT IGBT Modules



Dimensions in mm (1mm = 0.0394")



Absolute Maximum Ratings

$T_c = 25^\circ\text{C}$, unless otherwise specified

| Symbol | Conditions | Values | Units |
|-------------------|---|--------------------|------------------|
| V_{CES} | | 1200 | V |
| I_C | $T_c = 25(80)^\circ\text{C}$ | 103(75) | A |
| I_{CRM} | $T_c = 25(80)^\circ\text{C}$, $t_P = 1\text{ms}$ | 206(150) | A |
| V_{GES} | | ± 20 | V |
| P_{tot} | | 200 | W |
| $T_{Vj}(T_{stg})$ | $T_{OPERATION} \leq T_{stg}$ | $+150(-40...+125)$ | $^\circ\text{C}$ |
| V_{isol} | AC, 1min | 2500 | V |
| R_{thJC} | | ≤ 0.235 | K/W |
| R_{thJCD} | | ≤ 0.55 | |

6SI75N12

NPT IGBT Modules

Electrical Characteristics

$T_c = 25^\circ\text{C}$, unless otherwise specified

| Symbol | Conditions | min. | typ. | max. | Units |
|--|--|------|--------------------------------|----------|---------------|
| Static Characteristics | | | | | |
| $V_{GE(th)}$ | $V_{GE} = V_{CE}$, $I_c = 3\text{mA}$ | 4.5 | 5.5 | 6.5 | V |
| I_{CES} | $V_{GE} = 0$; $V_{CE} = 1200\text{V}$; $T_j = 25(125)^\circ\text{C}$ | | 1(4) | 1.5 | mA |
| I_{GES} | $V_{GE} = 20\text{V}$, $V_{CE} = 0$ | | | 320 | nA |
| $V_{CE(sat)}$ | $I_c = 75\text{A}$; $V_{GE} = 15\text{V}$; $T_j = 25(125)^\circ\text{C}$ | | 2.5(3.1) | 3.0(3.7) | V |
| AC Characteristics | | | | | |
| C_{iss} | under following conditions | | 5.1 | | nF |
| C_{oss} | $V_{GE} = 0$, $V_{CE} = 25\text{V}$, $f = 1\text{MHz}$ | | 0.72 | | |
| C_{rss} | | | 0.38 | | |
| g_{fs} | $V_{CE} = 20\text{V}$, $I_c = 75\text{A}$ | 31 | | | S |
| Switching Characteristics | | | | | |
| $t_{d(on)}$ | $V_{CC} = 600\text{V}$, $I_c = 75\text{A}$ | | 30 | 60 | ns |
| t_r | $R_{Gon} = R_{Goff} = 15\Omega$, $T_j = 125^\circ\text{C}$ | | 70 | 140 | |
| $t_{d(off)}$ | $V_{GE} = \pm 15\text{V}$ | | 450 | 600 | |
| t_f | | | 70 | 100 | |
| FWD under following conditions: | | | | | |
| V_F | $I_F = 75\text{A}$, $V_{GE} = 0\text{V}$, $T_j = 25(125)^\circ\text{C}$ | | 2.3(1.8) | 2.8 | V |
| t_{rr} | $I_F = 75\text{A}$, $V_R = -600\text{V}$, $V_{GE} = 0\text{V}$, $di/dt = -900\text{A}/\mu\text{s}$, $T_j = 125^\circ\text{C}$ | | 0.125 | | μs |
| Q_{rr} | $I_F = 75\text{A}$, $V_{GE} = 0\text{V}$, $V_R = -600\text{V}$ $di/dt = -900\text{A}/\mu\text{s}$, $T_j = 25(125)^\circ\text{C}$ | | 10(3.2) | | μC |
| Mechanical Data | | | | | |
| M_d | Mounting torque (M5) Terminal connection torque (M5) | | 2.5-4.0/22-35 2.5-4.0/22-35 | | Nm/lb.in. |
| w | | | | 190 | g |