

## FEATURES

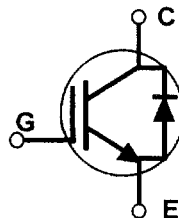
- \* High Speed Switching
- \* Low Saturation Voltage  
:  $V_{CE(sat)} = 2.7\text{ V}$  (at  $I_C=60\text{A}$ )
- \* High Input Impedance

TO-264



## APPLICATIONS

- \* Home Appliance
  - Induction Heater
  - IH JAR
  - Micro Wave Oven



## ABSOLUTE MAXIMUM RATINGS

| Symbol              | Characteristics                                                       |                       | Rating    | Unit |
|---------------------|-----------------------------------------------------------------------|-----------------------|-----------|------|
| V <sub>CES</sub>    | Collector-Emitter Voltage                                             |                       | 900       | V    |
| V <sub>GE</sub>     | Gate - Emitter Voltage                                                |                       | ± 25      | V    |
| I <sub>C</sub>      | Continuous Collector Current                                          | T <sub>C</sub> = 25℃  | 60        | A    |
|                     |                                                                       | T <sub>C</sub> = 100℃ | 42        |      |
| I <sub>CM (1)</sub> | Pulsed Collector Current                                              |                       | 120       | A    |
| P <sub>D</sub>      | Maximum Power Dissipation                                             | T <sub>C</sub> = 25℃  | 200       | W    |
|                     |                                                                       | T <sub>C</sub> = 100℃ | 120       |      |
| T <sub>j</sub>      | Operating Junction Temperature                                        |                       | -55 ~ 150 | ℃    |
| T <sub>stg</sub>    | Storage Temperature Range                                             |                       |           |      |
| T <sub>L</sub>      | Soldering maximum lead temperature<br>(1/8" from case for 10 seconds) |                       | 300       | ℃    |

**Notes:** (1) Repeattive rating : Pulse with limited by max. junction temperature

ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ\text{C}$ )

| Symbol        | Characteristics                         | Test Conditions                                                                    | Min | Typ  | Max  | Units   |
|---------------|-----------------------------------------|------------------------------------------------------------------------------------|-----|------|------|---------|
| $BV_{CES}$    | C - E Breakdown Voltage                 | $V_{GE} = 0V, I_C = 1mA$                                                           | 900 | -    | -    | V       |
| $V_{GE(th)}$  | G - E threshold voltage                 | $I_C = 60mA, V_{CE} = 10V$                                                         | 4.5 | -    | 7.5  | V       |
| $I_{CES}$     | Collector cutoff Current                | $V_{CE} = V_{CES}, V_{GE} = 0V$                                                    | -   | -    | 1.0  | mA      |
| $I_{GES}$     | G - E leakage Current                   | $V_{GE} = V_{GES}, V_{CE} = 0V$                                                    | -   | -    | 500  | nA      |
| $V_{CE(sat)}$ | Collector to Emitter saturation voltage | $V_{GE} = 15V, I_C = 60A$                                                          | -   | 2.7  | 3.5  | V       |
| $C_{ies}$     | Input capacitance                       | $V_{GE} = 0V, f = 1MHz$<br>$V_{CE} = 10V$                                          | -   | 4500 | -    | pF      |
| $C_{oes}$     | Output capacitance                      |                                                                                    | -   | 800  | -    | pF      |
| $C_{res}$     | Reverse transfer capacitance            |                                                                                    | -   | 200  | -    | pF      |
| $t_{on}$      | Turn on time                            | $V_{CC} = 600V, I_C = 60A$<br>$V_{GE} = 15V$<br>$R_G = 51\Omega$<br>Resistive load | -   | 350  | 800  | ns      |
| $t_r$         | Rise time                               |                                                                                    | -   | 250  | 600  | ns      |
| $t_{off}$     | Turn off time                           |                                                                                    | -   | 500  | 1000 | ns      |
| $t_f$         | Fall time                               |                                                                                    | -   | 250  | 400  | ns      |
| $V_{EC}$      | Emitter-Collector Voltage               | $I_E = 15A$                                                                        | -   | 1.5  | 2.0  | V       |
| $t_{rr}$      | Reverse recovery time                   | $I_E = 15A, di/dt = -100A/\mu s$                                                   | -   | 0.7  | 2.0  | $\mu s$ |

## THERMAL RESISTANCE

| Symbol          | Characteristics          | Min | Typ | Max   | Units              |
|-----------------|--------------------------|-----|-----|-------|--------------------|
| $R_{\theta JC}$ | Junction-to-Case : IGBT  | -   | -   | 0.625 | $^\circ\text{C/W}$ |
| $R_{\theta JC}$ | Junction-to-Case : Diode | -   | -   | 4.0   | $^\circ\text{C/W}$ |

