

# 2PG351

## Insulated Gate Bipolar Transistor

### ■ Features

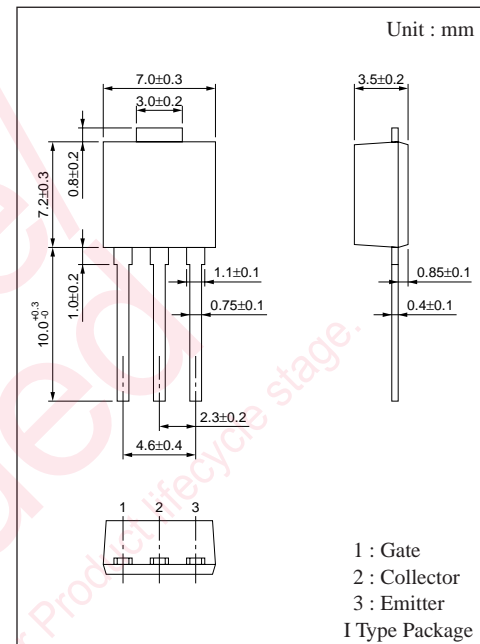
- High breakdown voltage :  $V_{CES}=400V$
- Large current control possible :  $I_{C(peak)}=130A$
- Housing in the surface mounting package possible

### ■ Applications

- For camera flash-light

### ■ Absolute Maximum Ratings ( $T_c = 25^\circ C$ )

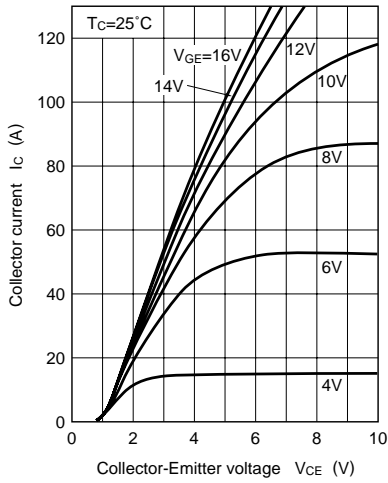
| Parameter                   | Symbol           | Rating       | Unit       |   |
|-----------------------------|------------------|--------------|------------|---|
| Collector-Emitter voltage   | $V_{CES}$        | 400          | V          |   |
| Gate-Emitter voltage        | $V_{GES}$        | $\pm 16$     | V          |   |
| Collector current           | DC               | $I_C$        | 5          | A |
|                             | Pulse            | $I_{CP}$     | 130        | A |
| Allowable power dissipation | $T_c=25^\circ C$ | $P_C$        | 15         | W |
|                             | $T_a=25^\circ C$ |              | 1.3        |   |
| Channel temperature         | $T_{ch}$         | 150          | $^\circ C$ |   |
| Storage temperature         | $T_{stg}$        | - 55 to +150 | $^\circ C$ |   |



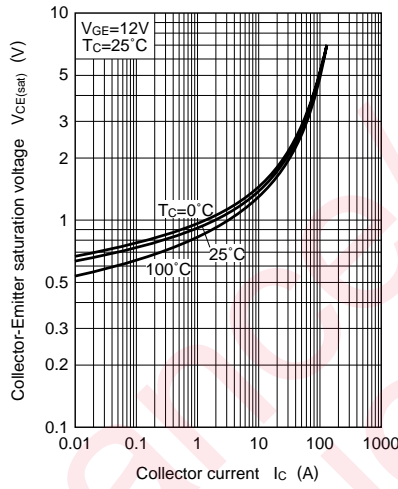
### ■ Electrical Characteristics ( $T_c = 25^\circ C$ )

| Parameter                            | Symbol        | Condition   | Min | Typ  | Max     | Unit    |
|--------------------------------------|---------------|---|-----|------|---------|---------|
| Collector-Emitter cut-off current    | $I_{CES}$     | $V_{CE}=320V, V_{GE}=0$                               |     |      | 10      | $\mu A$ |
| Gate-Emitter leakage current         | $I_{GES}$     | $V_{GE}=\pm 12V, V_{CE}=0$                            |     |      | $\pm 1$ | $\mu A$ |
| Collector-Emitter breakdown voltage  | $V_{CES}$     | $I_C=1mA, V_{GE}=0$                                   | 400 |      |         | V       |
| Gate threshold voltage               | $V_{GE(th)}$  | $V_{CE}=10V, I_C=1mA$                                 | 1   | 2.2  | 5       | V       |
| Collector-Emitter saturation voltage | $V_{CE(sat)}$ | $V_{GE}=12V, I_C=5A$                                  |     |      | 2       | V       |
|                                      |               | $V_{GE}=12V, I_C=130A$                                |     |      | 10      |         |
| Input capacitance                    | $C_{ies}$     | $V_{CE}=10V, V_{GE}=0, f=1MHz$                        |     | 1950 |         | pF      |
| Turn-on time (delay time)            | $t_{d(on)}$   | $V_{CC}=300V, I_C=130A$<br>$V_{GE}=12V, R_g=25\Omega$ |     | 35   |         | ns      |
| Rise time                            | $t_r$         |   |     | 550  |         | ns      |
| Turn-off time (delay time)           | $t_{d(off)}$  |   |     | 150  |         | ns      |
| Fall time                            | $t_f$         |   |     | 1.0  |         | $\mu s$ |

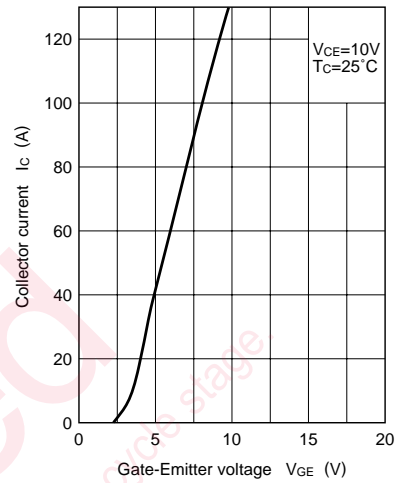
$I_C - V_{CE}$



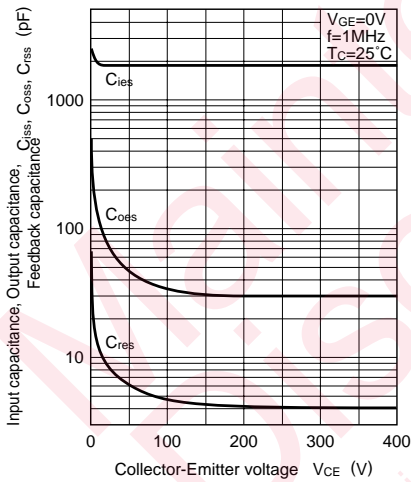
$V_{CE(sat)} - I_C$



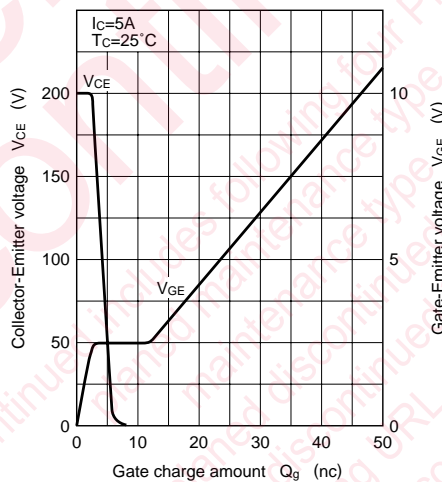
$I_C - V_{GE}$



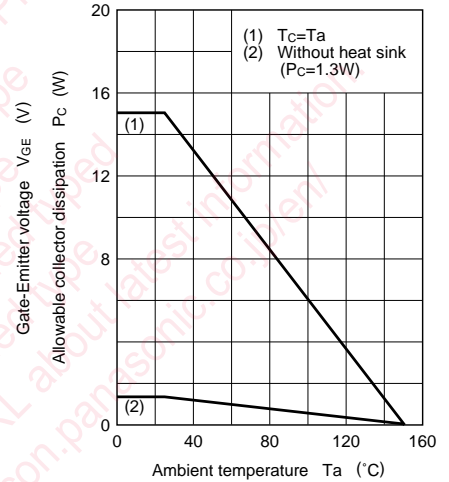
$C_{ies}, C_{oes}, C_{res} - V_{CE}$



$V_{CE}, V_{GE} - Q_g$



$P_C - T_a$



# Caution for Safety

 **DANGER**

## ■ This product contains Gallium Arsenide (GaAs).

GaAs powder and vapor are hazardous to human health if inhaled or ingested. Do not burn, destroy, cut, cleave off, or chemically dissolve the product. Follow related laws and ordinances for disposal. The product should be excluded from general industrial waste or household garbage.

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