# 2SC3310

SILICON NPN TRIPLE DIFFUSED TYPE

SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS.

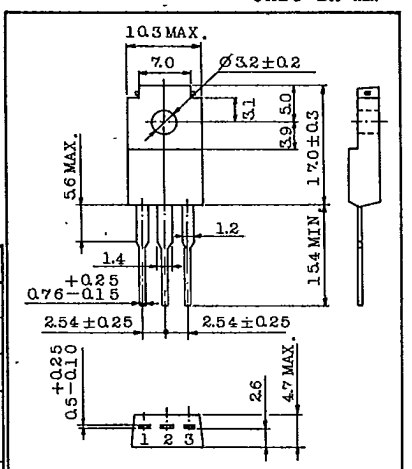
HIGH SPEED DC-DC CONVERTER APPLICATION.

INDUSTRIAL APPLICATIONS

FEATURES:

- Excellent Switching Times
  : $t_r$=1.0μs(Max.), $t_f$=1.0μs(Max.) at $I_C$=4A
- High Collector Breakdown Voltage : $V_{CEO}$=400V

Unit in mm




| | |
|---|---|
| JEDEC | – |
| EIAJ | – |
| TOSHIBA | 2-10L1A |

Weight : 2.1g

MAXIMUM RATINGS (Ta=25°C)

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|---|---|---|---|---|
| Collector-Base Voltage | | $V_{CBO}$ | 500 | V |
| Collector-Emitter Voltage | | $V_{CEO}$ | 400 | V |
| Emitter-Base Voltage | | $V_{EBO}$ | 7 | V |
| Collector Current | DC | $I_C$ | 5 | A |
| | Pulse | $I_{CP}$ | 7 | |
| Base Current | | $I_B$ | 1 | A |
| Collector Power Dissipation | Ta=25°C | $P_C$ | 2.0 | W |
| | Tc=25°C | | 30 | |
| Junction Temperature | | $T_j$ | 150 | °C |
| Storage Temperature Range | | $T_{stg}$ | −55～150 | °C |

ELECTRICAL CHARACTERISTICS (Ta=25°C)

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|---|
| Collector Cut-off Current | | $I_{CBO}$ | $V_{CB}$=400V, $I_E$=0 | – | – | 100 | μA |
| Emitter Cut-off Current | | $I_{EBO}$ | $V_{EB}$=7V, $I_C$=0 | – | – | 1 | mA |
| Collector-Base Breakdown Voltage | | $V_{(BR)CBO}$ | $I_C$=1mA, $I_E$=0 | 500 | – | – | V |
| Collector-Emitter Breakdown Voltage | | $V_{(BR)CEO}$ | $I_C$=10mA, $I_B$=0 | 400 | – | – | V |
| DC Current Gain | | $h_{FE}$ | $V_{CE}$=5V, $I_C$=3A | 12 | – | – | |
| | | | $V_{CE}$=5V, $I_C$=5A | 8 | – | – | |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | $I_C$=5A, $I_B$=1A | – | – | 1.0 | V |
| Base-Emitter Saturation Voltage | | $V_{BE(sat)}$ | $I_C$=5A, $I_B$=1A | – | – | 1.5 | V |
| Switching Time | Rise Time | $t_r$ | 20μs INPUT $I_{B1}$ $I_{B2}$ OUTPUT 50Ω $V_{CC}$≒200V $I_{B1}$=−$I_{B2}$=0.4A DUTY CYCLE<1% | – | – | 1.0 | μs |
| | Storage Time | $t_{stg}$ | | – | – | 2.5 | |
| | Fall Time | $t_f$ | | – | – | 1.0 | |





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