Ordering number:EN2488

NPN Triple Diffused Planar Type Darlington Silicon Transistor

# 2SC3664

## 400V/20A Driver Applications

## Applications

· Induction cookers.
· High-voltage, high power switching.

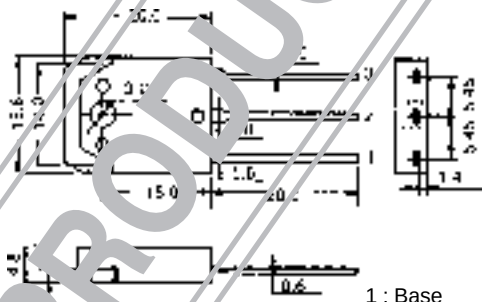
## Features

· Fast speed (adoption of MBIT process).
· High breakdown voltage ($V_{CBO}$=800V).
· High reliability (adoption of HVP process).
· On-chip damper diode.

## Package Dimensions

unit:mm

2022A



1 : Base
2 : Collector
3 : Emitter
SANYO : TO-3PB

## Specifications

### Absolute Maximum Ratings at Ta = 25˚C

| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Collector-to-Base Voltage | $V_{CBO}$ | | 800 | V |
| Collector-to-Emitter Voltage | $V_{CEO}$ | | 400 | V |
| Emitter-to-Base Voltage | $V_{EBO}$ | | 5 | V |
| Collector Current | $I_C$ | | 20 | A |
| Collector Current (Pulse) | $I_{CP}$ | | 40 | A |
| Base Current | $I_B$ | | 3 | A |
| Collector Dissipation | $P_C$ | Tc=25˚C | 150 | W |
| Junction Temperature | Tj | | 150 | ˚C |
| Storage Temperature | Tstg | | –55 to +150 | ˚C |

### Electrical Characteristics at Ta = 25˚C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=800V, $I_E$=0 | | | 1.0 | mA |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=5V, $I_C$=0 | | | 600 | mA |
| DC Current Gain | $h_{FE}$ | $V_{CE}$=5V, $I_C$=20A | 80 | | | |
| Diode Forward Voltage | $V_F$ | $I_{EC}$=20A | | | 2.0 | V |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$=20A, $I_B$=1A | | | 2.0 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C$=20A, $I_B$=1A | | | 2.5 | V |
| Collector-to-Emitter Sustain Voltage | $V_{CEO(sus)}$ | $I_C$=100mA | 400 | | | V |
| Fall Time | $t_f$ | $I_C$=20A, $I_{B1}$=1A, $I_{B2}$=–4A, $V_{CC}$=200V, $R_L$=10Ω | | | 1.5 | μs |





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**Switching Time Test Circuit**