Ordering number:ENN5817A

NPN Triple Diffused Planar Silicon Transistor

# 2SC5417LS

## Inverter Lighting Applications

## Features

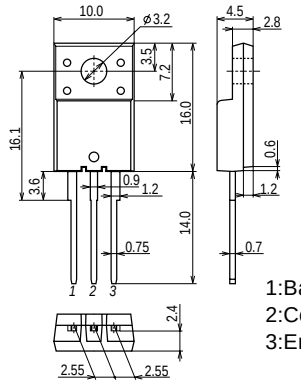
- High breakdown voltage.
- High reliability (Adoption of HVP process).
- Adoption of MBIT process.

## Package Dimensions

unit:mm

2079D

[2SC5417]




1:Base
2:Collector
3:Emitter

SANYO:TO-220FI (LS)

## Specifications

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Collector-to-Base Voltage | $V_{CBO}$ | | 1200 | V |
| Collector-to-Emitter Voltage | $V_{CEO}$ | | 600 | V |
| Emitter-to-Base Voltage | $V_{EBO}$ | | 9 | V |
| Collector Current | $I_C$ | | 3 | A |
| Collector Current (pulse) | $I_{CP}$ | | 6 | A |
| Collector Dissipation | $P_C$ | | 2 | W |
| | | Tc=25˚C | 25 | W |
| Junction Temperature | Tj | | 150 | ˚C |
| Storage Temperature | Tstg | | –55 to +150 | ˚C |

### Electrical Characteristics at Ta=25˚C

| Parameter | Symbol | Conditons | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=600V, $I_E$=0 | | | 10 | μA |
| Collector Cutoff Current | $I_{CES}$ | $V_{CE}$=1200V, $R_{BE}$=0 | | | 1.0 | mA |
| Collector Sustain Voltage | $V_{CEO(sus)}$ | $I_C$=100mA, $I_B$=0 | 600 | | | V |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=9V, $I_C$=0 | | | 1.0 | mA |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$=1.5A, $I_B$=0.3A | | | 1.0 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C$=1.5A, $I_B$=0.3A | | | 1.5 | V |
| DC Current Gain | $h_{FE}1$ | $V_{CE}$=5V, $I_C$=0.1A | 30 | 40 | 50 | |
| | $h_{FE}2$ | $V_{CE}$=5V, $I_C$=1.0A | 10 | | | |
| Storage Time | $t_{stg}$ | $I_C$=1.5A, $I_{B1}$=0.3A, $I_{B2}$=–0.6A | | | 2.5 | μs |
| Fall Time | $t_f$ | $I_C$=1.5A, $I_{B1}$=0.3A, $I_{B2}$=–0.6A | | | 0.15 | μs |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■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges,or other parameters) listed in products specifications of any and all SANYO products described or contained herein.



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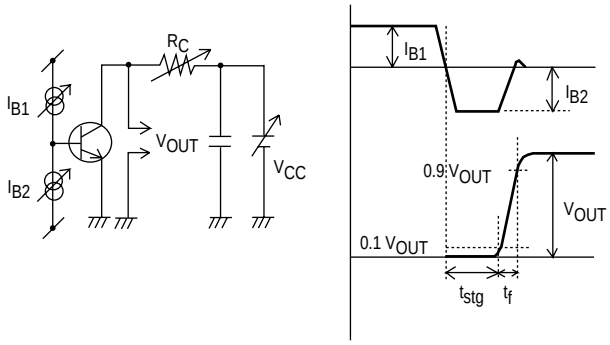
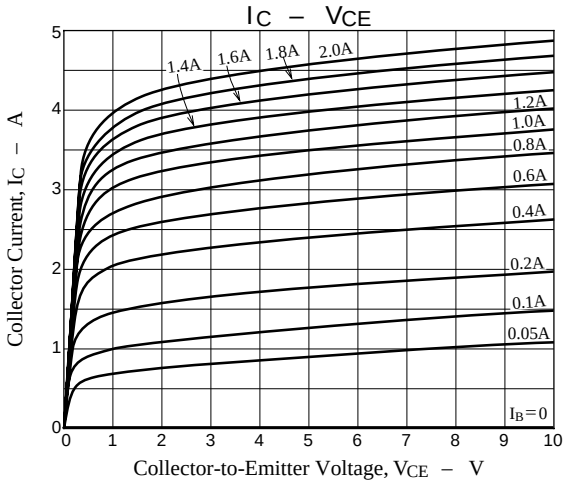
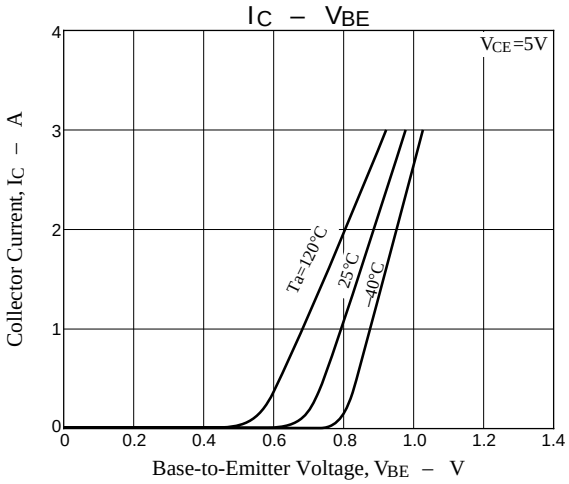
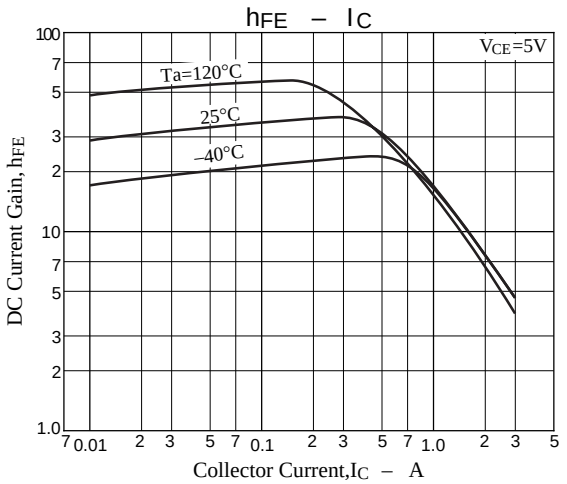
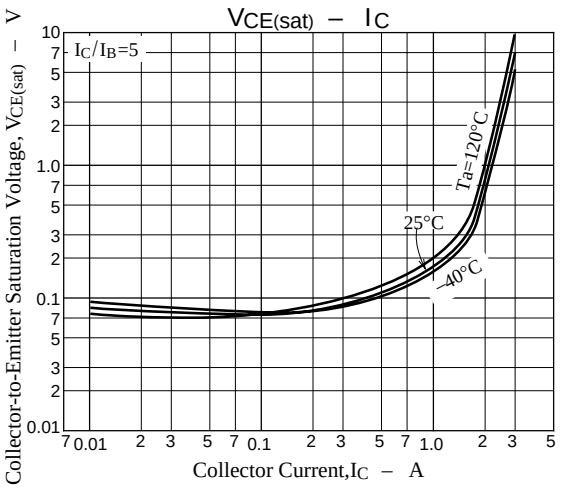
## Switching Time Test Circuit

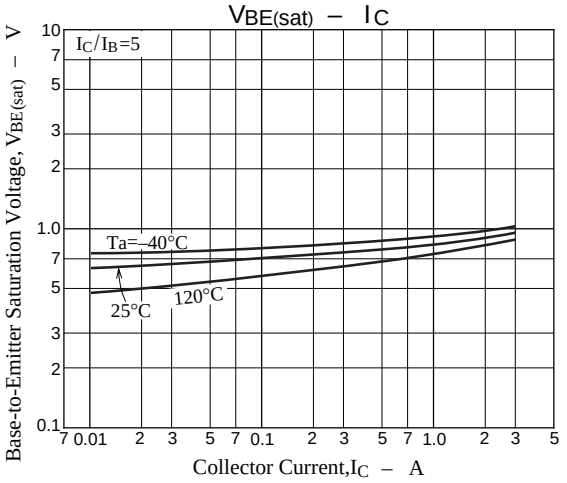


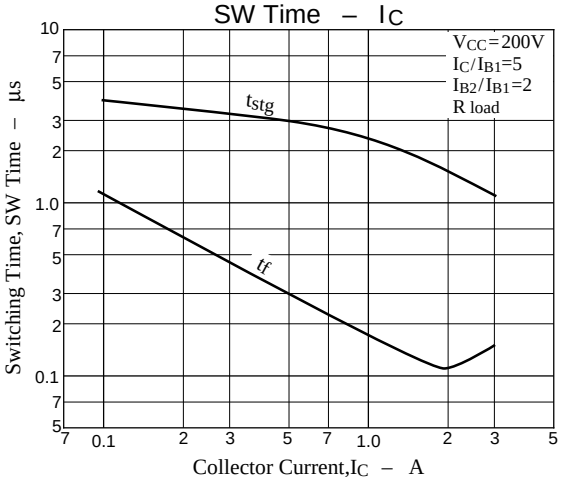



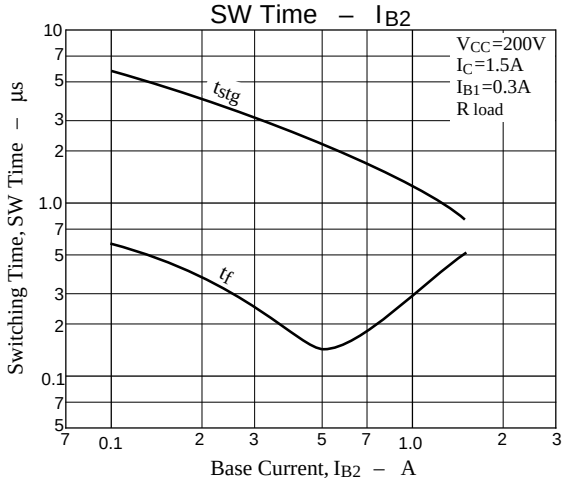



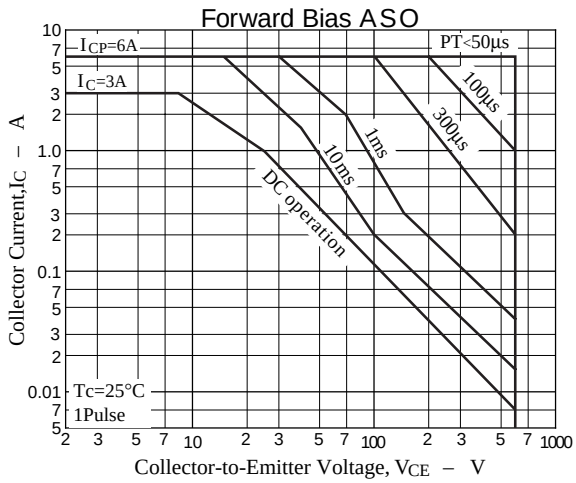



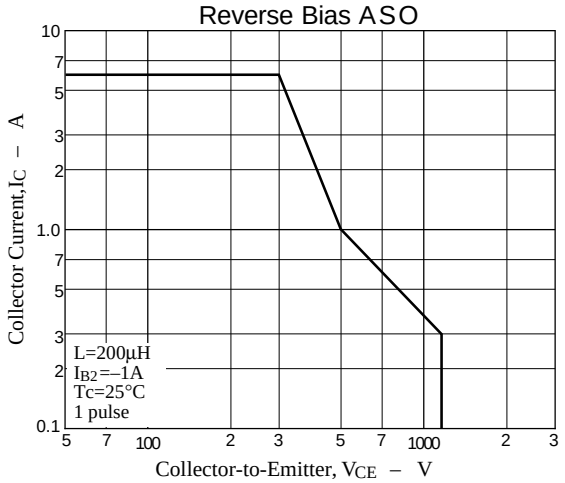



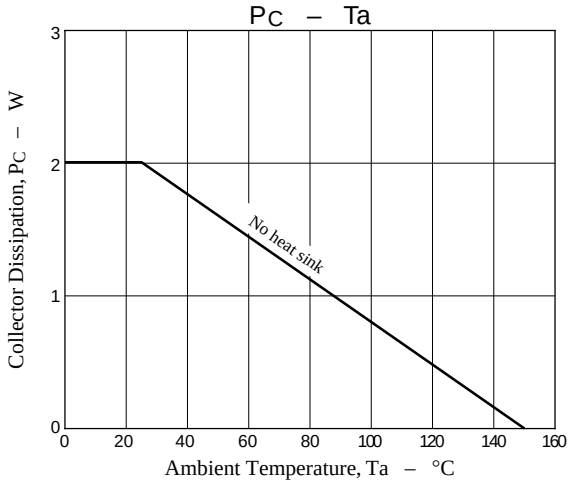



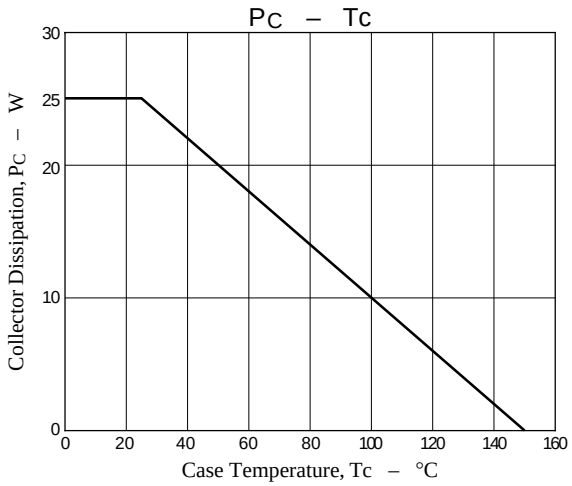




SW Time – IB2
VCC=200V
IC=1.5A
IB1=0.3A
R load
tstg
tf
Switching Time, SW Time – µs
Base Current, IB2 – A


Forward Bias ASO
ICP=6A
IC=3A
PT<50µs
100µs
300µs
1ms
10ms
DC operation
Tc=25°C
1Pulse
Collector Current,IC – A
Collector-to-Emitter Voltage, VCE – V


Reverse Bias ASO
L=200µH
IB2=–1A
Tc=25°C
1 pulse
Collector Current,IC – A
Collector-to-Emitter, VCE – V


PC – Ta
No heat sink
Collector Dissipation, PC – W
Ambient Temperature, Ta – °C


PC – Tc
Collector Dissipation, PC – W
Case Temperature, Tc – °C

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