Ordering number: EN 2761

SANYO

No.2761

# 2SC4222

NPN Triple Diffused Planar Silicon Transistor

## Switching Regulator Applications

**Features**

- High breakdown voltage, high reliability
- Fast switching speed ($t_f$: 0.1μs typ)
- Wide ASO
- Adoption of MBIT process
- Suitable for sets whose height is restricted

**Absolute Maximum Ratings** at Ta=25°C

| | | | | unit |
|---|---|---|---|---|
| Collector to Base Voltage | $V_{CBO}$ | | 800 | V |
| Collector to Emitter Voltage | $V_{CEO}$ | | 500 | V |
| Emitter to Base Voltage | $V_{EBO}$ | | 7 | V |
| Collector Current | $I_C$ | | 5 | A |
| Peak Collector Current | $i_{cp}$ | PW≦300μs, duty cycle≦10% | 10 | A |
| Base Current | $I_B$ | | 2 | A |
| Collector Dissipation | $P_C$ | Ta=25°C | 1.65 | W |
| | | Tc=25°C | 50 | W |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | −55 to +150 | °C |

**Electrical Characteristics** at Ta=25°C

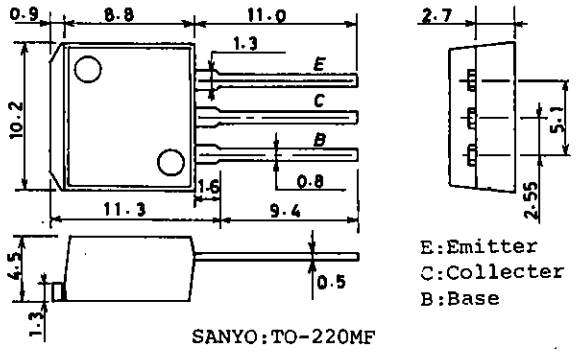
| | | | min | typ | max | unit |
|---|---|---|---|---|---|---|
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=500V, $I_E$=0 | | | 10 | μA |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=5V, $I_C$=0 | | | 10 | μA |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE}$=5V, $I_C$=0.6A | 15* | | 50* | |
| | $h_{FE(2)}$ | $V_{CE}$=5V, $I_C$=3A | 8 | | | |
| Gain-Bandwidth Product | $f_T$ | $V_{CE}$=10V, $I_C$=0.6A | | 18 | | MHz |
| Output Capacitance | $c_{ob}$ | $V_{CB}$=10V, f=1MHz | | 80 | | pF |

Continued on next page.

*: The $h_{FE(1)}$ of the 2SC4222 is classified as follows. When specifying the $h_{FE(1)}$ rank, specify two ranks or more in principle.

| | | |
|---|---|---|
| 15 L 30 | 20 M 40 | 30 N 50 |

**Package Dimensions** 2049
(unit: mm)




E: Emitter
C: Collecter
B: Base

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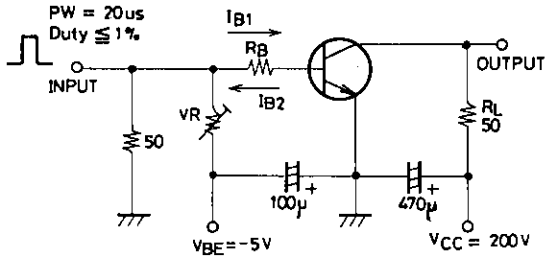
| | | | min | typ | max | unit |
|---|---|---|---|---|---|---|
| C-E Saturation Voltage | $V_{CE(sat)}$ | $I_C$=3A,$I_B$=0.6A | | | 1.0 | V |
| B-E Saturation Voltage | $V_{BE(sat)}$ | $I_C$=3A,$I_B$=0.6A | | | 1.5 | V |
| C-B Breakdown Voltage | $V_{(BR)CBO}$ | $I_C$=1mA,$I_E$=0 | 800 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$=5mA,$R_{BE}$=∞ | 500 | | | V |
| E-B Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$=1mA,$I_C$=0 | 7 | | | V |
| C-E Sustain Voltage | $V_{CEO(sus)}$ | $I_C$=5A,$I_B$=1A,L=50μH | 500 | | | V |
| | $V_{CEX(sus)}$ | $I_C$=2.5A,$I_{B1}$=-$I_{B2}$=1A, L=1mH,clamped | 500 | | | V |
| Rise Time | $t_{on}$ | $I_C$=4A,$I_{B1}$=0.8A, | | | 0.5 | μs |
| Storage Time | $t_{stg}$ | $I_{B2}$=-1.6A,$R_L$=50ohms, | | | 3.0 | μs |
| Fall Time | $t_f$ | $V_{CC}$=200V | | | 0.3 | μs |

**Switching Time Test Circuit**




Unit (resistance: Ω, capacitance: F)