## Features

Composite type with 2 transistors contained in the PCP5 package currently in use, improving the mounting efficiency greatly.
The FP216 is composed of two chips, each being equivalent to the 2 SC 3646 , placed in one package.

## Electrical Connection



1:Base
2:Collector
3:Emitter Common
4:Collector
5:Base
6:Collector
7:Collector
(Top view)

## Package Dimensions

unit:mm
2097B


## Specifications

## Absolute Maximum Ratings at $\mathbf{T a}=\mathbf{2 5}{ }^{\circ} \mathrm{C}$

| Parameter | Symbol |  | Conditions | Ratings |
| :--- | :---: | :--- | ---: | :---: |
| Collector-to-Base Voltage | $\mathrm{V}_{\mathrm{CBO}}$ |  | 120 | V |
| Collector-to-Emitter Voltage | $\mathrm{V}_{\mathrm{CEO}}$ |  | 100 | V |
| Emitter-to-Base Voltage | $\mathrm{V}_{\text {EBO }}$ |  | 6 | V |
| Collector Current | $\mathrm{I}_{\mathrm{C}}$ |  | 1 | A |
| Collector Current (Pulse) | $\mathrm{I}_{\mathrm{CP}}$ |  | 2 | A |
| Base Current | $\mathrm{I}_{\mathrm{B}}$ |  | 200 | mA |
| Collector Dissipation | $\mathrm{P}_{\mathrm{C}}$ | Mounted on ceramic board $\left(250 \mathrm{~mm}^{2} \times 0.8 \mathrm{~mm}\right) 1$ unit | 0.8 | W |
| Total Dissipation | $\mathrm{P}_{\mathrm{T}}$ | Mounted on ceramic board $\left(250 \mathrm{~mm}^{2} \times 0.8 \mathrm{~mm}\right)$ | 1.1 | W |
| Junction Temperature | Tj |  | 150 | ${ }^{\circ} \mathrm{C}$ |
| Storage Temperature | Tstg |  | ${ }^{\circ} \mathrm{C}$ |  |

## Electrical Characteristics at $\mathbf{T a}=\mathbf{2 5}^{\circ} \mathrm{C}$

| Parameter | Symbol | Conditons | Ratings |  |  | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | min | typ | max |  |
| Collector Cutoff Current | ${ }^{\text {CBO }}$ | $\mathrm{V}_{\mathrm{CB}}=100 \mathrm{~V}, \mathrm{I}_{\mathrm{E}}=0$ |  |  | 100 | nA |
| Emitter Cutoff Current | lebo | $\mathrm{V}_{\text {EB }}=4 \mathrm{~V}, \mathrm{I}_{\mathrm{C}}=0$ |  |  | 100 | nA |
| DC Current Gain | $\mathrm{h}_{\text {FE }}$ | $\mathrm{V}_{\mathrm{CE}}=5 \mathrm{~V}, \mathrm{I}_{\mathrm{C}}=100 \mathrm{~mA}$ | 140 |  | 400 |  |
| Gain-Bandwidth Product | ${ }_{\text {f }}$ | $\mathrm{V}_{\mathrm{CE}}=10 \mathrm{~V}, \mathrm{I}_{\mathrm{C}}=100 \mathrm{~mA}$ |  | 120 |  | MHz |
| Output Capacitance | Cob | $\mathrm{V}_{\mathrm{CB}}=10 \mathrm{~V}, \mathrm{f}=1 \mathrm{MHz}$ |  | 8.5 |  | pF |
| C-E Saturation Voltage | $\mathrm{V}_{\text {CE(sat) }}$ | ${ }^{1} \mathrm{C}=400 \mathrm{~mA}, \mathrm{I}_{\mathrm{B}}=40 \mathrm{~mA}$ |  | 100 | 400 | mV |
| B-E Saturation Voltage | $\mathrm{V}_{\mathrm{BE} \text { (sat) }}$ | ${ }^{1} \mathrm{C}=400 \mathrm{~mA}, \mathrm{I}_{\mathrm{B}}=40 \mathrm{~mA}$ |  | 0.85 | 1.2 | V |
| C-B Breakdown Voltage | $\mathrm{V}_{\text {(BR) }} \mathrm{CBO}$ | $\mathrm{I}_{\mathrm{C}}=10 \mu \mathrm{~A}, \mathrm{I}_{\mathrm{E}}=0$ | 120 |  |  | V |
| C-E Breakdown Voltage | $\mathrm{V}_{\text {(BR) }} \mathrm{VEO}^{\text {(BR) }}$ | $\mathrm{I}_{\mathrm{C}}=1 \mathrm{~mA}, \mathrm{R}_{\mathrm{BE}}=\infty$ | 100 |  |  | V |
| E-B Breakdown Voltage | $\mathrm{V}_{(\mathrm{BR}) \mathrm{EBO}}$ | $\mathrm{I}_{\mathrm{E}}=10 \mu \mathrm{~A}, \mathrm{I}_{\mathrm{C}}=0$ | 6 |  |  | V |
| Turn-ON Time | $\mathrm{t}_{\text {on }}$ | See specified Test Circuit |  | 80 |  | ns |
| Storage Time | $\mathrm{t}_{\text {stg }}$ | See specified Test Circuit |  | 850 |  | ns |
| Fall Time | $\mathrm{t}_{\mathrm{f}}$ | See specified Test Circuit |  | 50 |  | ns |

Marking:216

## Switching Time Test Circuit






$h_{F E}-I_{C}$



FP216


This catalog provides information as of May, 1998. Specifications and information herein are subject to change without notice.

