

**ACTIVE COMPONENTS FOR HYBRID CIRCUITS**  
**COMPOSANTS ACTIFS POUR CIRCUITS HYBRIDES**



**Silicon NPN transistors, general purpose (chip)**  
*Transistors NPN silicium, usage général (pastille)*

| Type<br>Type | $V_{CBO}$<br>(V) | $V_{CEO}$<br>(V)<br>$V_{CER}^*$ | $I_C$<br>(mA) | $h_{21E}$<br>min - max | $V_{CE}$<br>(V) | $I_C$<br>(mA) |
|--------------|------------------|---------------------------------|---------------|------------------------|-----------------|---------------|
| J.2N 1613    | 75               | 50*                             | 1000          | 40 - 120*              | 10              | 150           |
| J.2N 1711    | 75               | 50*                             | 1000          | 100 - 300*             | 10              | 150           |
| J.2N 1893    | 120              | 80                              | 1000          | 40 - 120*              | 10              | 150           |
| J.2N 2221    | 60               | 30                              | 800           | 40 - 120*              | 10              | 150           |
| J.2N 2221 A  | 75               | 40                              | 800           | 40 - 120*              | 10              | 150           |
| J.2N 2222    | 60               | 30                              | 800           | 100 - 300*             | 10              | 150           |
| J.2N 2222 A  | 75               | 40                              | 800           | 100 - 300*             | 10              | 150           |
| J.BSX 51     | 25               | 25                              | 200           | 75 - 225               | 4,5             | 2             |
| J.BSX 51 A   | 50               | 50                              | 200           | 75 - 220               | 4,5             | 2             |
| J.BSX 52     | 25               | 25                              | 200           | 180 - 540              | 4,5             | 2             |
| J.BSX 52 A   | 50               | 50                              | 200           | 180 - 540              | 4,5             | 2             |

**Silicon PNP transistors, general purpose (chip)**  
*Transistors PNP silicium, usage général (pastille)*

| Type<br>Type | $V_{CBO}$<br>(V) | $V_{CEO}$<br>(V) | $I_C$<br>(mA) | $h_{21E}$<br>min - max | $V_{CE}$<br>(V) | $I_C$<br>(mA) |
|--------------|------------------|------------------|---------------|------------------------|-----------------|---------------|
| J.2N 2906    | -60              | -40              | -600          | 40 - 120*              | -10             | -150          |
| J.2N 2906 A  | -60              | -60              | -600          | 40 - 120*              | -10             | -150          |
| J.2N 2907    | -60              | -40              | -600          | 100 - 300*             | -10             | -150          |
| J.2N 2907 A  | -60              | -60              | -600          | 100 - 300*             | -10             | -150          |
| J.BSW 21     | -25              | -25              | -200          | 75 - 225               | -4,5            | -2            |
| J.BSW 21 A   | -50              | -50              | -200          | 75 - 225               | -4,5            | -2            |
| J.BSW 22     | -25              | -25              | -200          | 180 - 540              | -4,5            | -2            |
| J.BSW 22 A   | -50              | -50              | -200          | 180 - 540              | -4,5            | -2            |

\* Pulsed  
 Impulsions