



## SOT-563 Plastic-Encapsulate Transistors

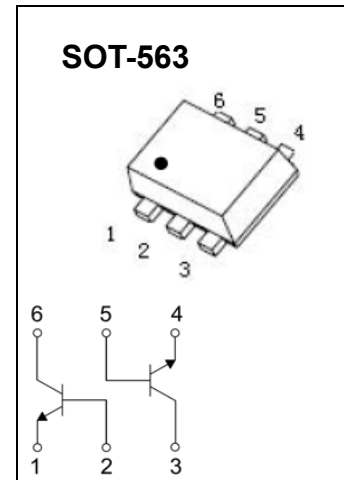
**EMX18** DUAL TRANSISTOR(NPN+NPN)

### FEATURES

- Two 2SC5585 chips in a package
- Mounting possible with SOT-563 automatic mounting machines
- Transistor elements are independent, eliminating interference
- Mounting cost and area be cut in half

**Marking: X18**

**Equivalent circuit**



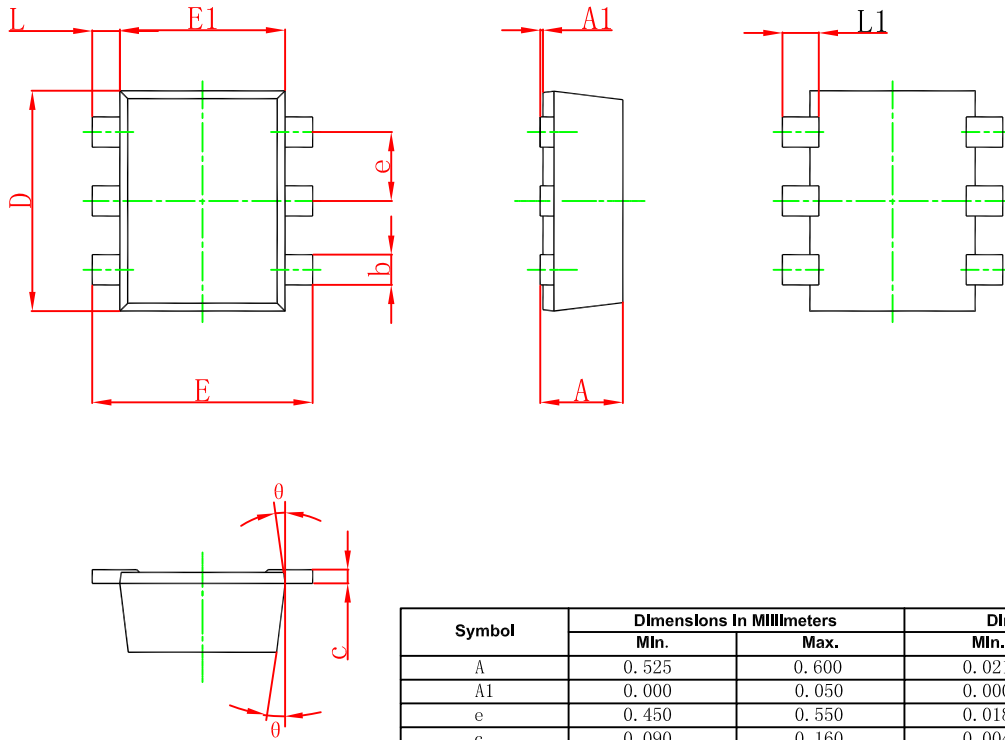
**Absolute maximum ratings (Ta=25°C)**

| Symbol                            | Parameter  | Value    | Units |
|-----------------------------------|--|----------|-------|
| V <sub>CB0</sub>                  | Collector-Base Voltage                           | 15       | V     |
| V <sub>CEO</sub>                  | Collector-Emitter Voltage                        | 12       | V     |
| V <sub>EBO</sub>                  | Emitter-Base Voltage                             | 6        | V     |
| I <sub>c</sub>                    | Collector Current                                | 500      | mA    |
| P <sub>c</sub>                    | Collector Power Dissipation                      | 150      | mW    |
| T <sub>J</sub> , T <sub>stg</sub> | Operation Junction and Storage Temperature Range | -55~+150 | °C    |

**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

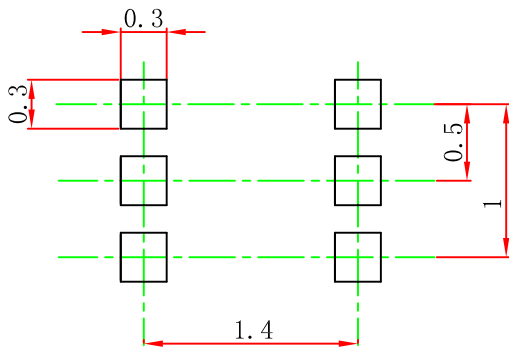
| Parameter                            | Symbol               | Test conditions                                      | Min | Typ | Max  | Unit |
|--------------------------------------|----------------------|--|-----|-----|------|------|
| Collector-base breakdown voltage     | V <sub>(BR)CBO</sub> | I <sub>C</sub> =10μA, I <sub>E</sub> =0              | 15  |     |      | V    |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub> | I <sub>C</sub> =1mA, I <sub>B</sub> =0               | 12  |     |      | V    |
| Emitter-base breakdown voltage       | V <sub>(BR)EBO</sub> | I <sub>E</sub> =10μA, I <sub>C</sub> =0              | 6   |     |      | V    |
| Collector cut-off current            | I <sub>CBO</sub>     | V <sub>CB</sub> =15V, I <sub>E</sub> =0              |     |     | 0.1  | μA   |
| Emitter cut-off current              | I <sub>EBO</sub>     | V <sub>EB</sub> =6V, I <sub>C</sub> =0               |     |     | 0.1  | μA   |
| DC current gain                      | h <sub>FE</sub>      | V <sub>CE</sub> =2V, I <sub>C</sub> =10mA            | 270 |     | 680  |      |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =200mA, I <sub>B</sub> =10mA          |     |     | 0.25 | V    |
| Transition frequency                 | f <sub>T</sub>       | V <sub>CE</sub> =2V, I <sub>E</sub> =-10mA, f=100MHz |     | 320 |      | MHz  |
| Collector output capacitance         | C <sub>ob</sub>      | V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz      |     | 7.5 |      | pF   |

## SOT-563 Package Outline Dimensions



| Symbol   | Dimensions In Millimeters |       | Dimensions In Inches |       |
|----------|---------------------------|-------|----------------------|-------|
|          | Min.                      | Max.  | Min.                 | Max.  |
| A        | 0.525                     | 0.600 | 0.021                | 0.024 |
| A1       | 0.000                     | 0.050 | 0.000                | 0.002 |
| e        | 0.450                     | 0.550 | 0.018                | 0.022 |
| c        | 0.090                     | 0.160 | 0.004                | 0.006 |
| D        | 1.500                     | 1.700 | 0.059                | 0.067 |
| b        | 0.170                     | 0.270 | 0.007                | 0.011 |
| E1       | 1.100                     | 1.300 | 0.043                | 0.051 |
| E        | 1.500                     | 1.700 | 0.059                | 0.067 |
| L        | 0.100                     | 0.300 | 0.004                | 0.012 |
| L1       | 0.200                     | 0.400 | 0.008                | 0.016 |
| $\theta$ | 10° REF.                  |       | 10° REF.             |       |

## SOT-563 Suggested Pad Layout

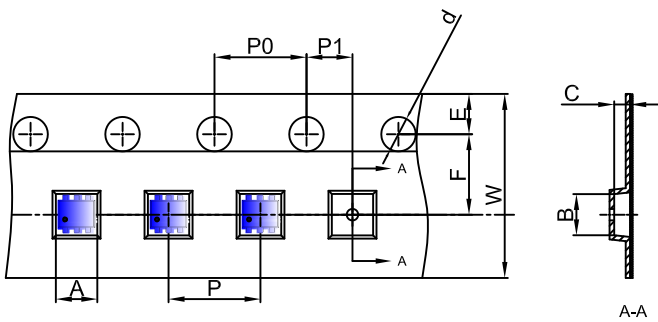


Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

# SOT-563 Tape and Reel

## SOT-563 Embossed Carrier Tape

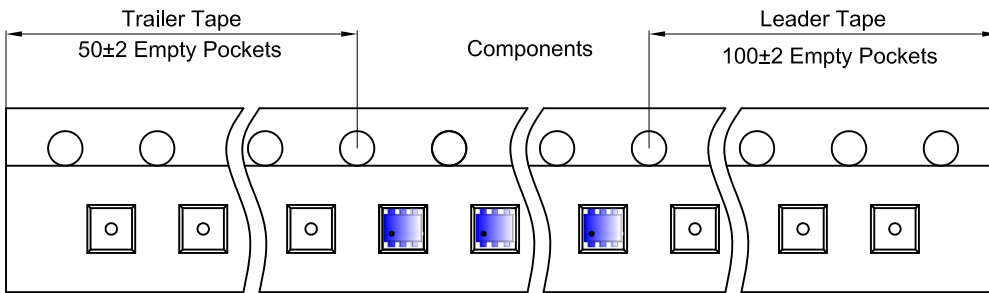


### Packaging Description:

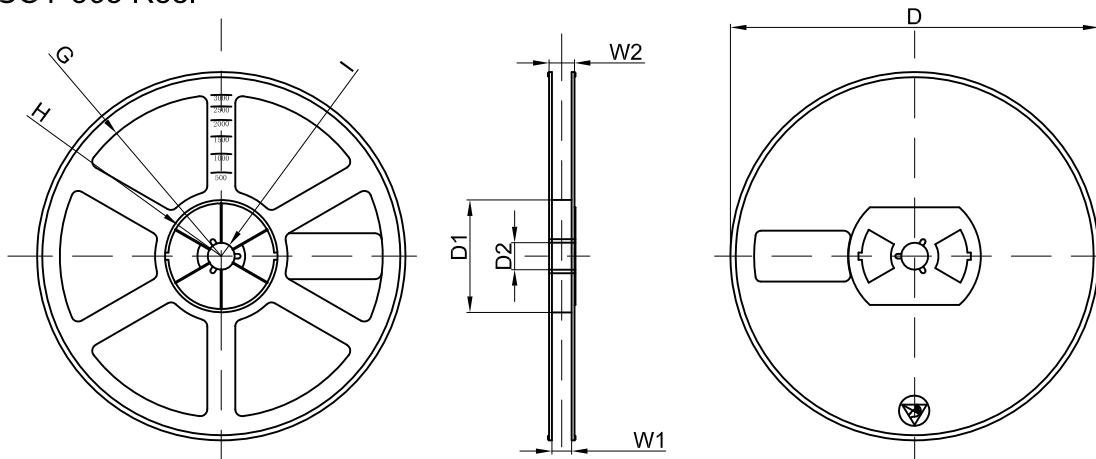
SOT-563 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17,8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

| Dimensions are in millimeter |      |      |      |       |      |      |      |      |      |      |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|
| Pkg type                     | A    | B    | C    | d     | E    | F    | P0   | P    | P1   | W    |
| SOT-563                      | 1.78 | 1.78 | 0.69 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

## SOT-563 Tape Leader and Trailer



## SOT-563 Reel



| Dimensions are in millimeter |         |       |       |        |        |       |      |       |
|------------------------------|---------|-------|-------|--------|--------|-------|------|-------|
| Reel Option                  | D       | D1    | D2    | G      | H      | I     | W1   | W2    |
| 7"Dia                        | Ø178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |

| REEL     | Reel Size | Box        | Box Size(mm) | Carton      | Carton Size(mm) | G.W.(kg) |
|----------|-----------|------------|--------------|-------------|-----------------|----------|
| 3000 pcs | 7 inch    | 45,000 pcs | 203×203×195  | 180,000 pcs | 438×438×220     |          |