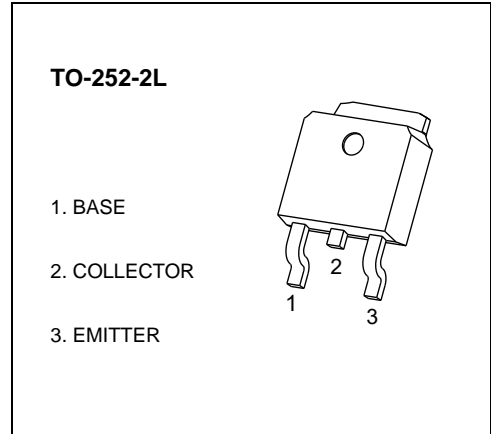


TO-252-2L Plastic-Encapsulate Transistors

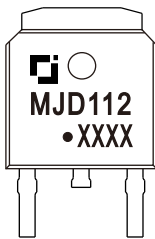
MJD112 TRANSISTOR (NPN)

FEATURES

- Complementary Darlingtong Power Transistors
Dpak for Surface Mount Applications

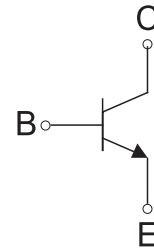


MARKING



BC307=Device code
Solid dot=Green moldinn compound device,
if none,the normal device
XXXX=Code

Equivalent Circuit



MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

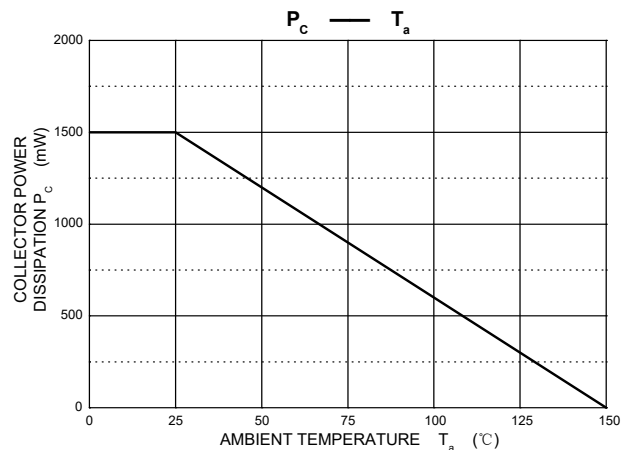
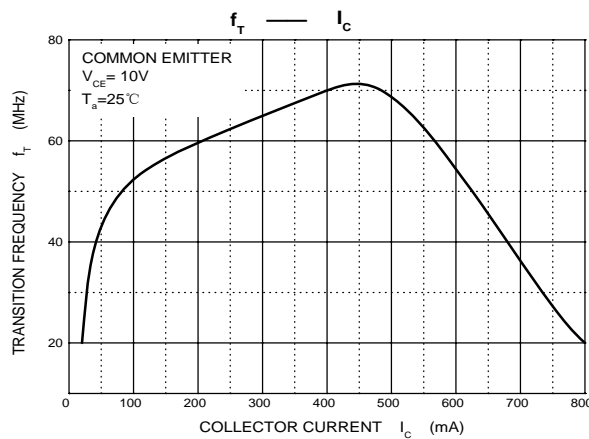
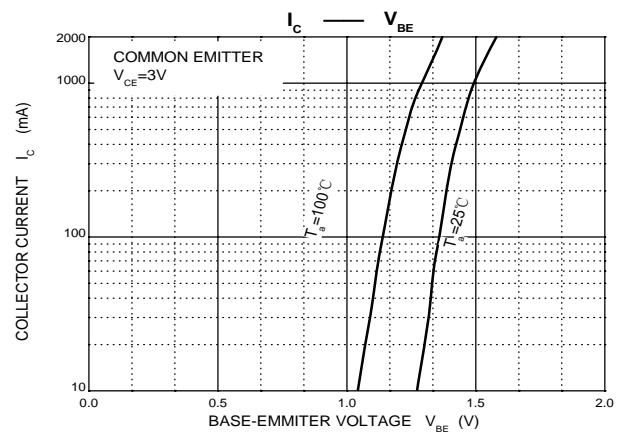
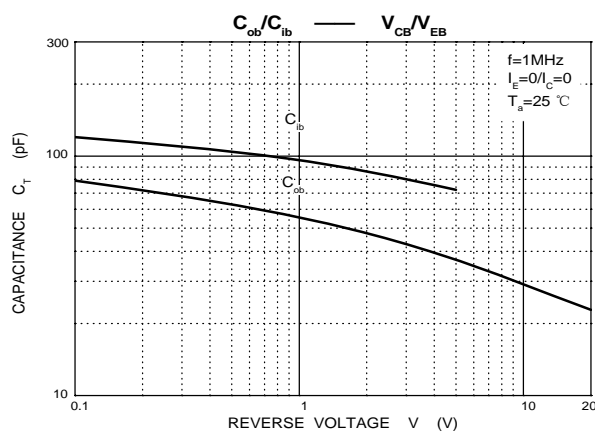
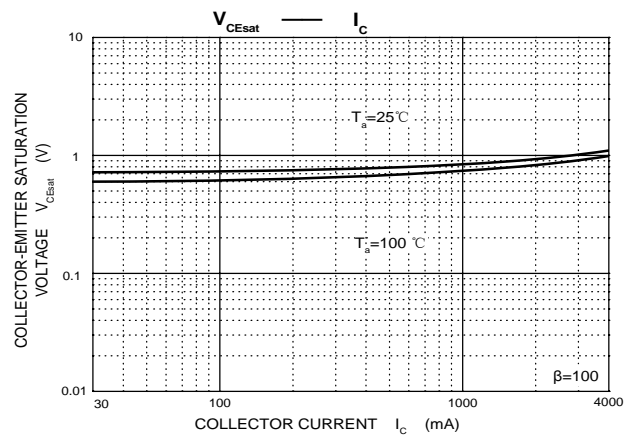
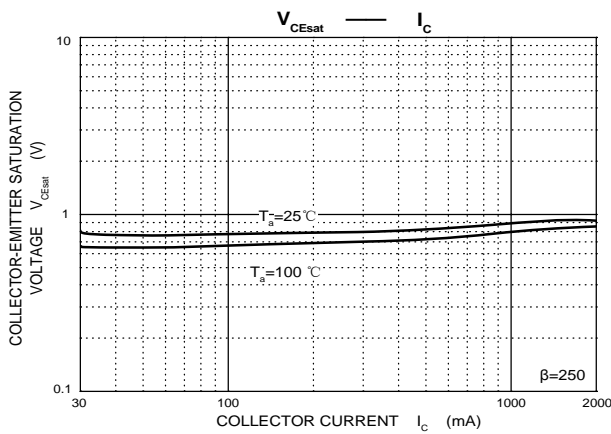
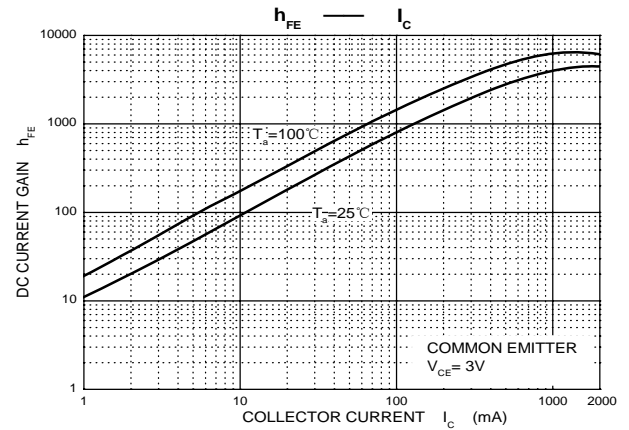
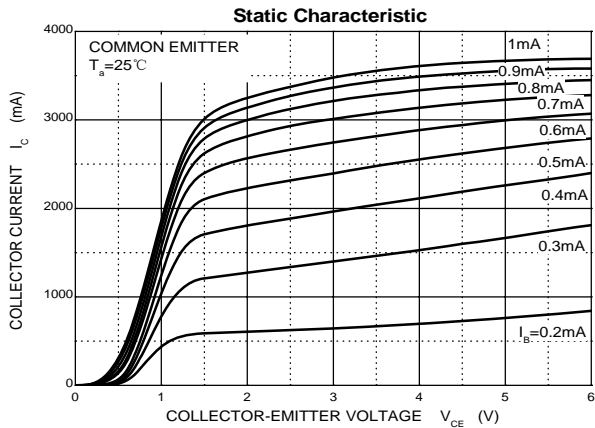
| Symbol | Parameter | Value | Unit |
|----------------------------------|--------------------------------------------------|---------|------|
| V _{CB0} | Collector-Base Voltage | 100 | V |
| V _{CEO} | Collector-Emitter Voltage | 100 | V |
| V _{EBO} | Emitter-Base Voltage | 5 | V |
| I _C | Collector Current -Continuous | 2 | A |
| P _C | Collector Power Dissipation | 1.5 | W |
| R _{θJC} | Thermal resistance, junction to case | 6.25 | °C/W |
| R _{θJA} | Thermal resistance, junction to Ambient | 83.3 | °C/W |
| T _J ,T _{stg} | Operation Junction and Storage Temperature Range | -55-150 | °C |

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

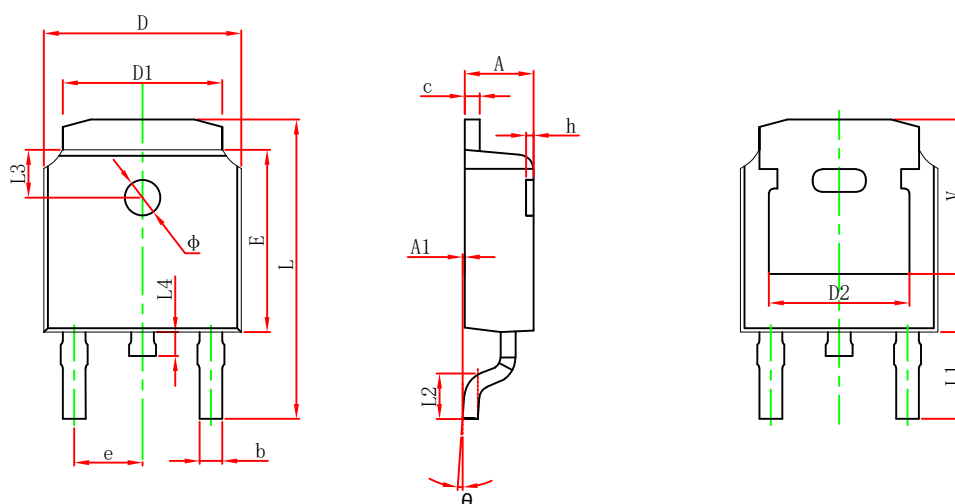
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|-----------------------|-----------------------------------------------------|------|-----|-------|------|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _C =1mA, I _E =0 | 100 | | | V |
| Collector-emitter breakdown voltage | V _{(BR)CEO} | I _C =30mA, I _B =0 | 100 | | | V |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E =5mA, I _C =0 | 5 | | | V |
| Collector cut-off current | I _{CBO} | V _{CB} =100V, I _E =0 | | | 20 | μA |
| Collector-emitter cut-off current | I _{CEO} | V _{CE} =50V, I _E =0 | | | 20 | μA |
| Emitter cut-off current | I _{EBO} | V _{EB} =5V, I _C =0 | | | 2 | mA |
| DC current gain | h _{FE(1)} | V _{CE} =3V, I _C =500mA | 500 | | | |
| | h _{FE(2)} | V _{CE} =3V, I _C =2A | 1000 | | 12000 | |
| | h _{FE(3)} | V _{CE} =3V, I _C =4A | 200 | | | |
| Collector-emitter saturation voltage | V _{CE(sat)1} | I _C =2A, I _B =8mA | | | 2 | V |
| | V _{CE(sat)2} | I _C =4A, I _B =40mA | | | 3 | V |
| Base-emitter voltage | V _{BE} | V _{CE} =3V, I _C =2A | | | 2.8 | V |
| Transition frequency | f _T | V _{CE} =10V, I _C =0.75A, f=1MHz | | | | MHz |
| Collector output capacitance | C _{ob} | V _{CB} =10V, I _E =0, f=0.1MHz | | | 100 | pF |

Typical Characteristics

MJD112

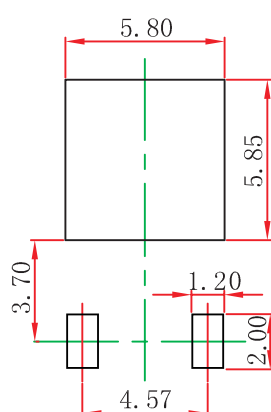


TO-252-2L Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|--------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.200 | 2.400 | 0.087 | 0.094 |
| A1 | 0.000 | 0.127 | 0.000 | 0.005 |
| b | 0.635 | 0.770 | 0.025 | 0.030 |
| c | 0.460 | 0.580 | 0.018 | 0.023 |
| D | 6.500 | 6.700 | 0.256 | 0.264 |
| D1 | 5.100 | 5.460 | 0.201 | 0.215 |
| D2 | 4.830 REF. | | 0.190 REF. | |
| E | 6.000 | 6.200 | 0.236 | 0.244 |
| e | 2.186 | 2.386 | 0.086 | 0.094 |
| L | 9.712 | 10.312 | 0.382 | 0.406 |
| L1 | 2.900 REF. | | 0.114 REF. | |
| L2 | 1.400 | 1.700 | 0.055 | 0.067 |
| L3 | 1.600 REF. | | 0.063 REF. | |
| L4 | 0.600 | 1.000 | 0.024 | 0.039 |
| Φ | 1.100 | 1.300 | 0.043 | 0.051 |
| θ | 0° | 8° | 0° | 8° |
| h | 0.000 | 0.300 | 0.000 | 0.012 |
| V | 5.250 REF. | | 0.207 REF. | |

TO-252-2L Suggested Pad Layout



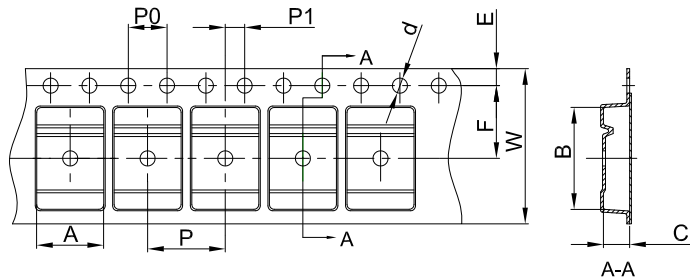
- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

TO-252-2L Tape and Reel

TO-252 Embossed Carrier Tape

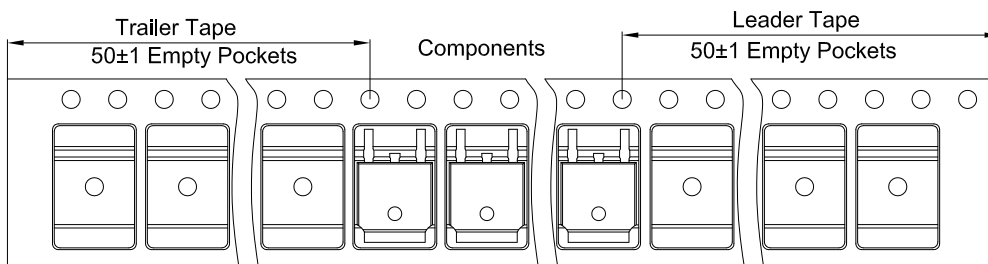


Packaging Description:

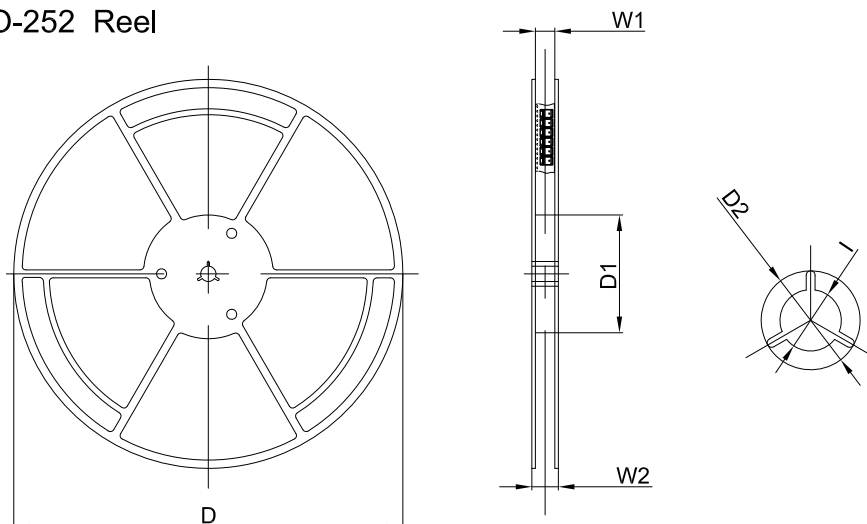
TO-252 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 25,00 units per 13" or 33.0 cm 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 |
| TO-252 | 6.90 | 10.50 | 2.70 | Ø1.55 | 1.75 | 7.50 | 4.00 | 8.00 | 2.00 | 16.00 |

TO-252 Tape Leader and Trailer



TO-252 Reel



| Dimensions are in millimeter | | | | | | |
|------------------------------|--------|--------|--------|-------|-------|--------|
| Reel Option | D | D1 | D2 | W1 | W2 | I |
| 13" Dia | 330.00 | 100.00 | Ø21.00 | 16.40 | 21.00 | Ø13.00 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|-----------|-----------|-----------|--------------|------------|-----------------|----------|
| 2,500 pcs | 13inch | 2,500 pcs | 340×336×29 | 25,000 pcs | 353×346×365 | |