

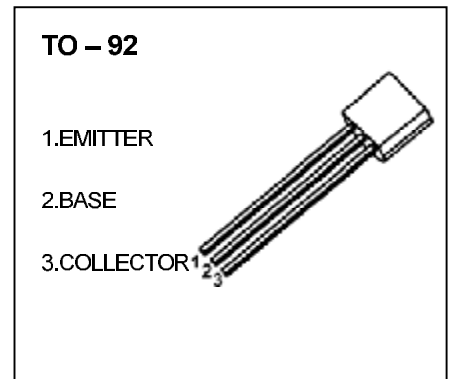


DONGGUAN NANJING ELECTRONICS LTD.,
TO-92 Plastic-Encapsulate Transistors

KSA539 TRANSISTOR (PNP)

FEATURES

- Low Saturation Medium Current Application
- Complement to KSC815



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

| Symbol | Parameter | Value | Unit |
|------------------|---|----------|------|
| V _{CB0} | Collector-Base Voltage | -60 | V |
| V _{CEO} | Collector-Emitter Voltage | -45 | V |
| V _{EBO} | Emitter-Base Voltage | -5 | V |
| I _C | Collector Current | -0.2 | A |
| P _C | Collector Power Dissipation | 400 | mW |
| R _{θJA} | Thermal Resistance From Junction To ambient | 312 | °C/W |
| T _J | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature | -55~+150 | °C |

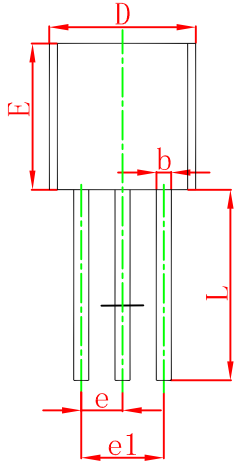
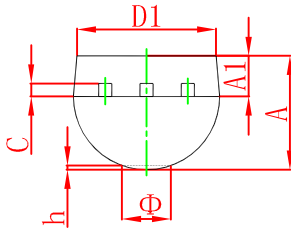
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|----------------------|---|------|-----|------|------|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _C =-0.1mA, I _E =0 | -60 | | | V |
| Collector-emitter breakdown voltage | V _{(BR)CEO} | I _C =-10mA, I _B =0 | -45 | | | V |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E =-0.01mA, I _C =0 | -5 | | | V |
| Collector cut-off current | I _{CB0} | V _{CB} =-45V, I _E =0 | | | -0.1 | μA |
| Emitter cut-off current | I _{EBO} | V _{EB} =-3V, I _C =0 | | | -0.1 | μA |
| DC current gain | h _{FE} | V _{CE} =-1V, I _C =-50mA | 40 | | 240 | |
| Collector-emitter saturation voltage | V _{CE(sat)} | I _C =-150mA, I _B =-15mA | | | -0.5 | V |
| Base-emitter saturation voltage | V _{BE(sat)} | I _C =-150mA, I _B =-15mA | | | -1.2 | V |
| Base-emitter voltage | V _{BE} | V _{CE} =-1V, I _C =-10mA | -0.6 | | -0.9 | V |

CLASSIFICATION OF h_{FE}

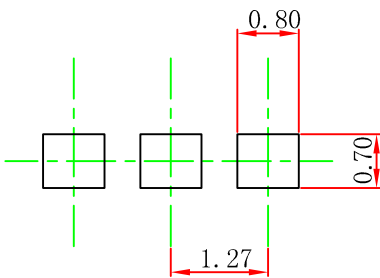
| RANK | R | O | Y |
|-------|-------|--------|---------|
| RANGE | 40-80 | 70-140 | 120-240 |

TO-92 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 3.300 | 3.700 | 0.130 | 0.146 |
| A1 | 1.100 | 1.400 | 0.043 | 0.055 |
| b | 0.380 | 0.550 | 0.015 | 0.022 |
| c | 0.360 | 0.510 | 0.014 | 0.020 |
| D | 4.300 | 4.700 | 0.169 | 0.185 |
| D1 | 3.430 | | 0.135 | |
| E | 4.300 | 4.700 | 0.169 | 0.185 |
| e | 1.270 TYP | | 0.050 TYP | |
| e1 | 2.440 | 2.640 | 0.096 | 0.104 |
| L | 14.100 | 14.500 | 0.555 | 0.571 |
| Φ | | 1.600 | | 0.063 |
| h | 0.000 | 0.380 | 0.000 | 0.015 |

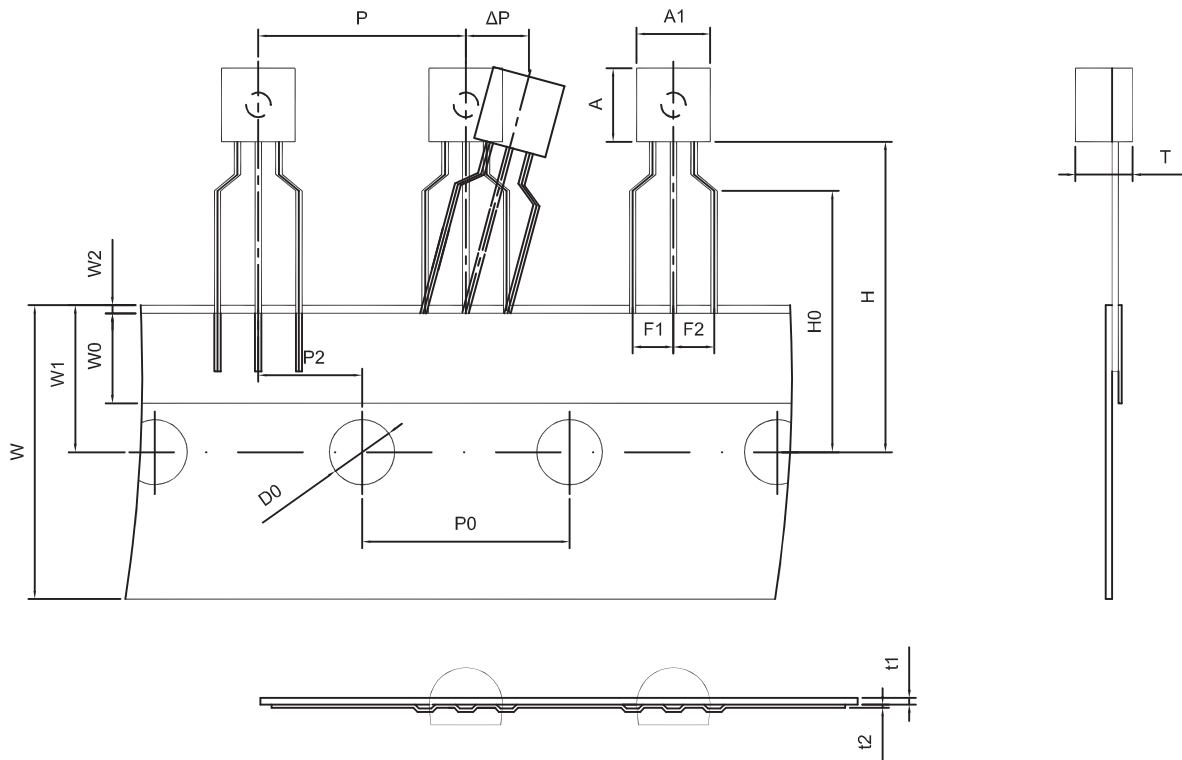
TO-92 Suggested Pad Layout



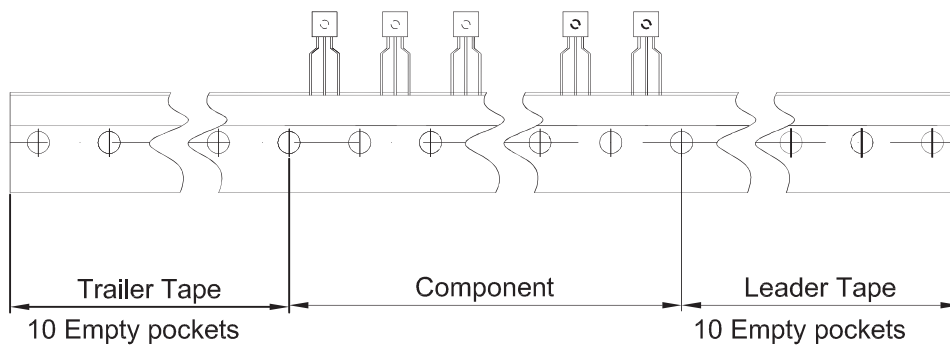
Note:

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

TO-92 PACKAGE TAPEING DIMENSION



| Dimiensions are in millimeter | | | | | | | | |
|-------------------------------|-----|----------|------|------|------|-----|-----|------|
| A1 | A | T | P | P0 | P2 | F1 | F2 | W |
| 4.5 | 4.5 | 3.5 | 12.7 | 12.7 | 6.35 | 2.5 | 2.5 | 18.0 |
| W0 | W1 | W2 | H | H0 | D0 | t1 | t2 | ΔP |
| 6.0 | 9.0 | 1.0 MAX. | 19.0 | 16.0 | 4.0 | 0.4 | 0.2 | 0 |



| Package | Box | Box Size(mm) | Carton | Carton Size(mm) |
|---------|----------|--------------|------------|-----------------|
| TO-92 | 2000 pcs | 333×162×43 | 20,000 pcs | 350×340×250 |