# UMW 2SA73

SOT-23 Plastic-Encapsulate Transistors

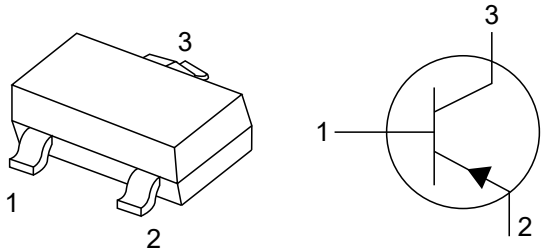
## 1.Features

- Complement to C945
- 2SA73 TRANSI STOR (PNP)
- Collector-Base Voltage

## 2.Pinning Information

| Pin | Symbol | Description |
|---|---|---|
| 1 | B | BASE |
| 2 | E | EMITTER |
| 3 | C | COLLECTOR |

**SOT-23**




## 3.Absolute Maximum Ratings $T_A$= 25°C

| Parameter | Symbol | Value | Units |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | -60 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | -50 | V |
| Emitter-Base Voltage | $V_{EBO}$ | -5 | V |
| Collector Current | $I_C$ | -150 | mA |
| Collector Power Dissipation | $P_C$ | 200 | mW |
| Thermal Resistance From Junction To Ambient | $R_{\theta JA}$ | 625 | °C/W |
| Junction Temperature | $T_J$ | 150 | °C |
| Storage Temperature | $T_{STG}$ | -55 to 150 | °C |

## 4.Electrical Characteristics $T_A$= 25°C

| Parameter | Symbol | Conditions | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C$=-5μA, $I_E$=0 | -60 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C$=-1mA, $I_B$=0 | -50 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E$=-50μA, $I_C$=0 | -5 | | | V |
| Collector cut-off current | $I_{CBO}$ | $V_{CB}$=-60V, $I_E$=0 | | | -0.1 | μA |
| Emitter cut-off current | $I_{EBO}$ | $V_{CB}$=-5V, $I_E$=0 | | | -0.1 | μA |
| DC current gain | $h_{FE}$ | $V_{CE}$=-6V, $I_C$=-1mA | 120 | | 475 | |
| | | $V_{CE}$=-6V, $I_C$=-0.1mA | 40 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C$=-100mA, $I_B$=-10mA | | -0.18 | -0.3 | V |
| Base-emitter saturation voltage | $V_{BE(on)}$ | $V_{CE}$=-6V, $I_C$=-1mA | -0.58 | -0.62 | -0.68 | V |
| Transition frequency | $f_T$ | $V_{CE}$=-6V, $I_C$=-10mA, f=30MHz | 50 | | | MHz |
| Collector Output Capacitance | $C_{ob}$ | $V_{CE}$=-10V, $I_E$=0, f=1MHz | | 4.5 | 7 | pf |
| Noise Figure | $N_F$ | $V_{CE}$=-6V, $I_C$=-0.3mA<br>$R_g$=10kΩ, f=100Hz | | 6 | 20 | dB |

## 5.Classification of $h_{FE}$

| Rank | L | H |
|---|---|---|
| Range | 120-220 | 220-475 |

## 6.Typical Characterisitics

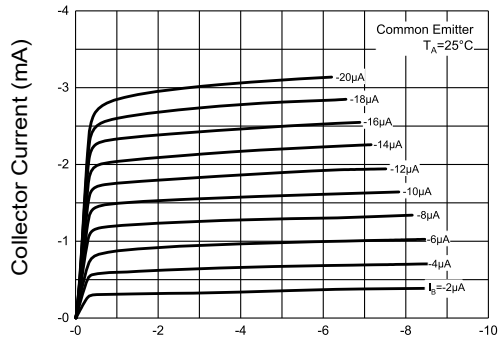



Figure 1: Static Characteristics

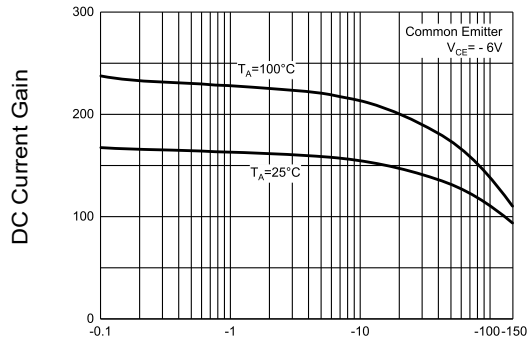



Figure 2: DC Current Gain Characteristics

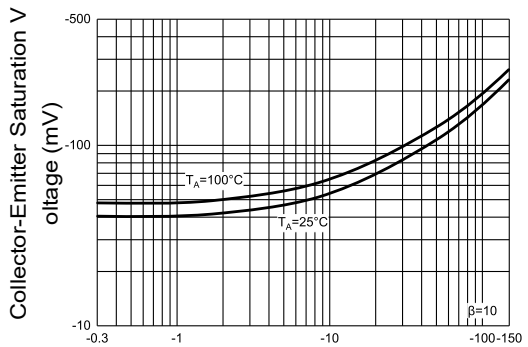



Figure 3: Collector-Emitter Saturation Voltage Characteristics

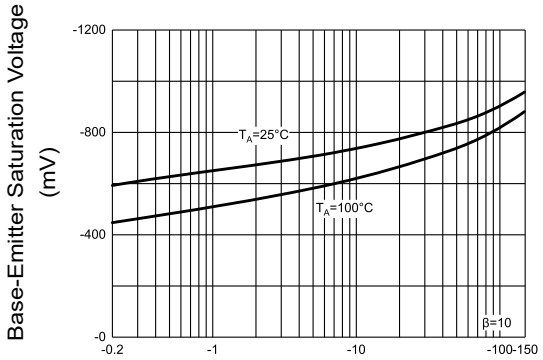



Figure 4: Base-Emitter Saturation Voltage Characteristics

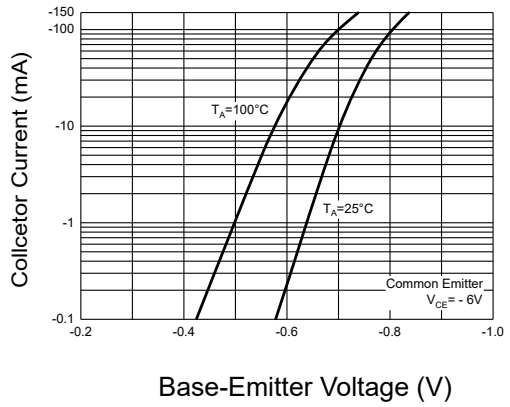



Figure 5: Base-Emitter Voltage Characteristics

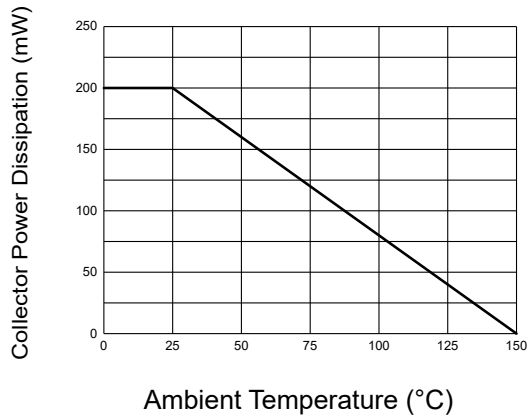
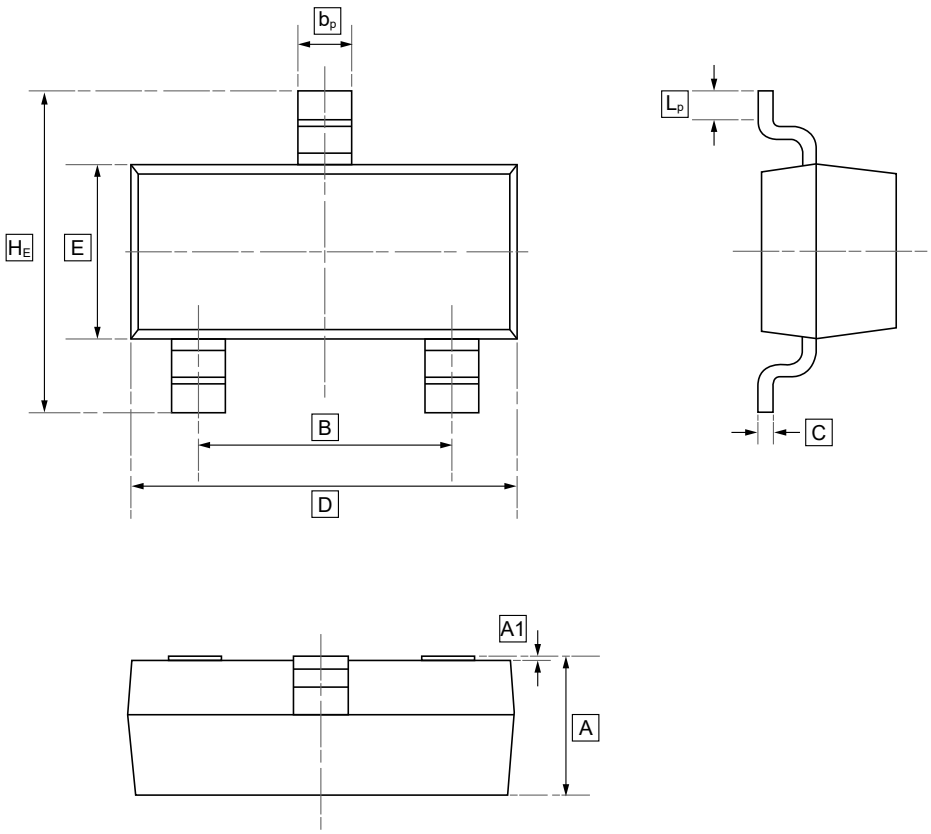



Figure 6: Collector Power Derating Curve

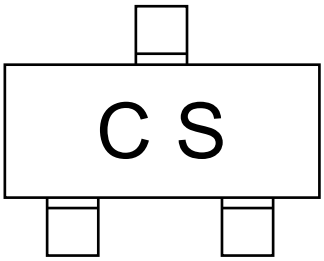
## 7.SOT-23 Package Outline Dimensions




**DIMENSIONS (mm are the original dimensions)**

| Symbol | A | B | $b_p$ | C | D | E | $H_E$ | A1 | $L_p$ |
|---|---|---|---|---|---|---|---|---|---|
| **Min** | 0.95 | 1.78 | 0.35 | 0.08 | 2.70 | 1.20 | 2.20 | 0.013 | 0.20 |
| **Max** | 1.40 | 2.04 | 0.50 | 0.19 | 3.10 | 1.65 | 3.00 | 0.100 | 0.50 |

## 8.Ordering information




| Order Code | Package | Base QTY | Delivery Mode |
|---|---|---|---|
| UMW 2SA73 | SOT-23 | 3000 | Tape and reel |

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