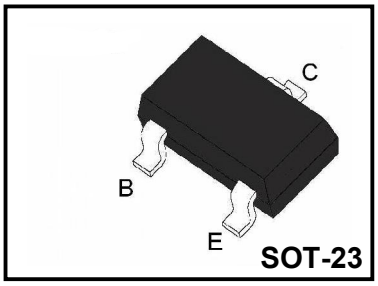
## PNP Plastic-Encapsulate Transistors




### Applications
- For general AF applications

### Features
- High breakdown voltage
- Low collector-emitter saturation voltage
- Complementary type: BCX41 (NPN)

**Marking: DKs**

### Absolute Maximum Ratings (Ta=25℃)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Collector-base voltage | $BV_{CBO}$ | -125 | V |
| Collector-emitter voltage | $BV_{CEO}$ | -125 | V |
| Emitter-base voltage | $BV_{EBO}$ | -5 | V |
| Collector current | $I_C$ | -800 | mA |
| Peak collector current | $I_{CM}$ | -1 | A |
| Base current | $I_B$ | -100 | mA |
| Peak base current | $I_{BM}$ | -200 | mA |
| Total power dissipation | $P_{tot}$ | 330 | mW |
| Junction temperature | $T_j$ | 150 | ℃ |
| Storage temperature | $T_{stg}$ | -55～+150 | ℃ |

### Thermal Resistance

| Parameter | Symbol | Max | Unit |
|---|---|---|---|
| Junction - soldering point | $R_{\theta JS}$ | 215 | ℃/W |

For calculation of $R_{\theta JA}$ please refer to Application Note Thermal Resistance

## Electrical Characteristics (Ta=25℃ , unless otherwise specified)

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $BV_{CBO}$ | $I_C$ = -100μA, $I_E$ = 0 | -125 | | | V |
| Collector-emitter breakdown voltage | $BV_{CEO}$ | $I_C$ = -1mA, $I_B$ = 0 | -125 | | | V |
| Emitter-base breakdown voltage | $BV_{EBO}$ | $I_E$ = -100μA, $I_C$ = 0 | -5 | | | V |
| Collector cut-off current | $I_{CBO}$ | $V_{CB}$ = -100V, $I_E$ = 0 | | | -0.1 | μA |
| Collector-emitter cutoff current | $I_{CEO}$ | $V_{CE}$ = -100V, $I_B$ = 0 | | | -10 | μA |
| Emitter cut-off current | $I_{EBO}$ | $V_{EB}$ = -4V, $I_C$ = 0 | | | -0.1 | μA |
| DC current gain* | $h_{FE}$ | $V_{CE}$ = -1V, $I_C$ = -0.1mA | 25 | | | |
| | | $V_{CE}$ = -1V, $I_C$ = -100mA | 63 | | | |
| | | $V_{CE}$ = -1V, $I_C$ = -200mA | 40 | | | |
| Collector-emitter saturation voltage* | $V_{CE(sat)}$ | $I_C$ = -300mA, $I_B$ = -30mA | | | -0.9 | V |
| Base-emitter saturation voltage* | $V_{BE(sat)}$ | $I_C$ = -300mA, $I_B$ = -30mA | | | -1.4 | V |
| Gian bandwidth product | $f_T$ | $V_{CE}$ = -5V, $I_C$ = -20mA, f=20MHz | | 150 | | $MH_Z$ |
| Collector-base capacitance | $C_{ob}$ | $V_{CB}$ =-10V, $I_E$ =0, f=1MHz | | 12 | | pF |

* Pulse test: t < 300μs; Duty < 2%

## Typical Characteristic

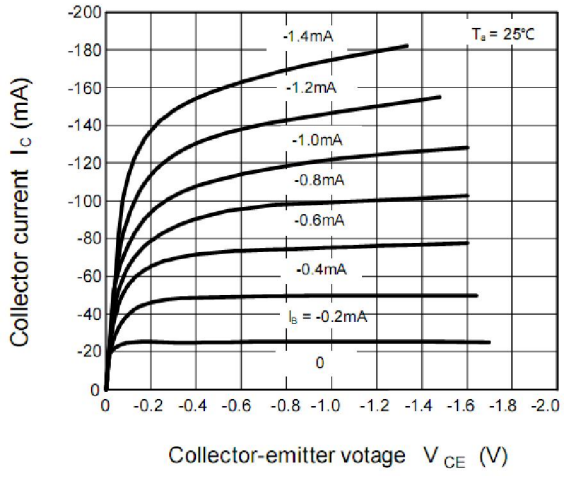



**Figure 1. Static characteristics**

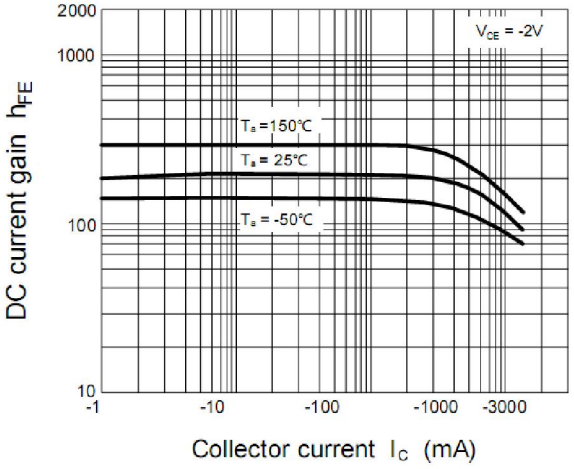



**Figure 2. DC Current Gain**

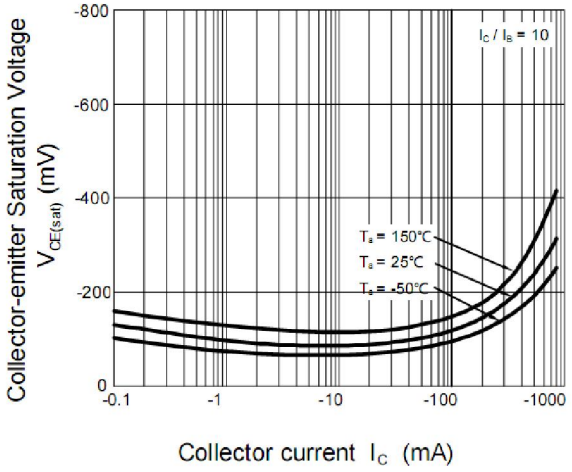



**Figure 3. Collector-emitter Saturation Voltage**

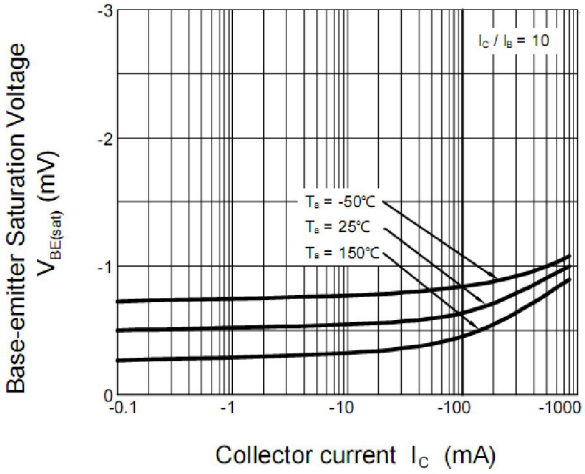



**Figure 4. Base-Emitter Saturation Voltage**

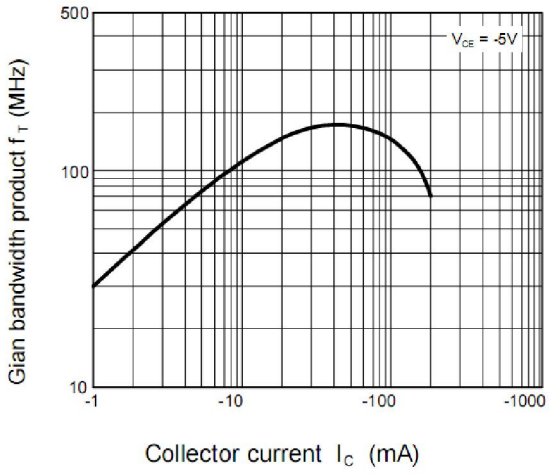



**Figure 5. Gian bandwidth product**

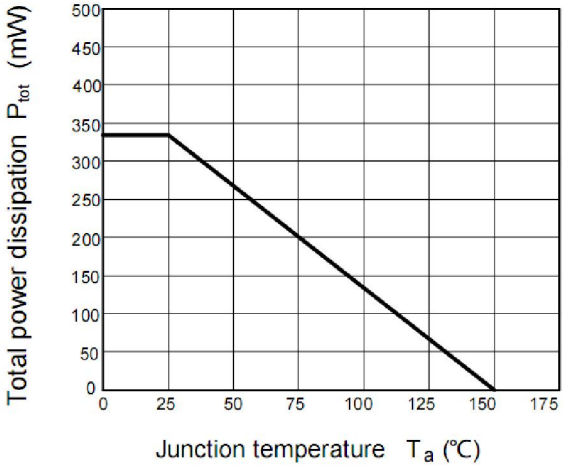
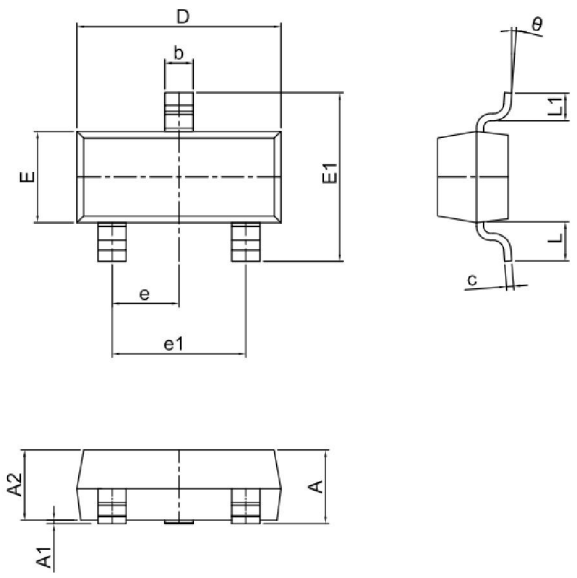



**Figure 6. Power Derating**

## Package Outline SOT-23




| Dim | Millimeter | | Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 0.90 | 1.15 | 0.035 | 0.045 |
| A1 | 0.00 | 0.10 | 0.000 | 0.004 |
| A2 | 0.90 | 1.05 | 0.035 | 0.041 |
| b | 0.30 | 0.50 | 0.012 | 0.020 |
| c | 0.08 | 0.15 | 0.003 | 0.006 |
| D | 2.80 | 3.00 | 0.110 | 0.118 |
| E | 1.20 | 1.40 | 0.047 | 0.055 |
| E1 | 2.25 | 2.55 | 0.089 | 0.100 |
| e | 0.90 | 1.00 | 0.035 | 0.039 |
| e1 | 1.80 | 2.00 | 0.071 | 0.079 |
| L | 0.50 | 0.60 | 0.020 | 0.024 |
| L1 | 0.30 | 0.50 | 0.012 | 0.020 |

## Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---|---|---|---|
| SOT-23 | Tape/Reel,7”reel | 3000 | EIA-481-1 |