CHINA BASE INTERNATIONAL

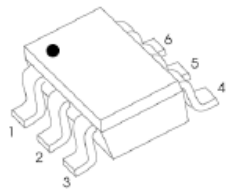
# SOT-363

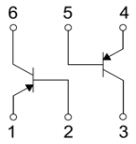
# MMDT3906DW

www.china-base.com.hk

## Plastic-Encapsulate Transistors

SOT-363




DUAL TRANSISTOR (PNP+PNP)

**FEATURES**

- Epitaxial planar die construction
- Ideal for low power amplification and switching

**MARKING:K3N**

**MAXIMUM RATINGS($T_a$=25℃ unless otherwise noted)**

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -40 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -40 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -5 | V |
| $I_C$ | Collector Current -Continuous | -0.2 | A |
| $P_C$ | Collector Power Dissipation | 0.2 | W |
| $R_{\theta JA}$ | Thermal Resistance. Junction to Ambient Air | 625 | ℃/W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55-150 | ℃ |

**ELECTRICAL CHARACTERISTICS(Ta=25℃unless otherwise specified)**

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V_{(BR)CBO}$ | $I_C$=-10μA,$I_E$=0 | -40 | | | V |
| **Collector-emitter breakdown voltage** | $V_{(BR)CEO}$ | $I_C$=-1mA,$I_B$=0 | -40 | | | V |
| **Emitter-base breakdown voltage** | $V_{(BR)EBO}$ | $I_E$=-10μA,$I_C$=0 | -5 | | | V |
| **Collector cut-off current** | $I_{CEX}$ | $V_{CE}$=-30V,$V_{EB(OFF)}$=-3V | | | -50 | nA |
| **Base cut-off current** | $I_{EBO}$ | $V_{EB}$=-5V,$I_C$=0 | | | -50 | nA |
| **DC current gain** | $h_{FE(1)}$ | $V_{CE}$=-1V,$I_C$=-0.1mA | 60 | | | |
| | $h_{FE(2)}$ | $V_{CE}$=-1V,$I_C$=-1mA | 80 | | | |
| | $h_{FE(3)}$ | $V_{CE}$=-1V,$I_C$=-10mA | 100 | | 300 | |
| | $h_{FE(4)}$ | $V_{CE}$=-1V,$I_C$=-50mA | 60 | | | |
| | $h_{FE(5)}$ | $V_{CE}$=-1V,$I_C$=-100mA | 30 | | | |
| **Collector-emitter saturation voltage** | $V_{CE(sat)1}$ | $I_C$=-10mA,$I_B$=-1mA | | | -0.25 | V |
| | $V_{CE(sat)2}$ | $I_C$=-50mA,$I_B$=-5mA | | | -0.4 | V |
| **Base-emitter saturation voltage** | $V_{BE(sat)1}$ | $I_C$=-10mA,$I_B$=-1mA | -0.65 | | -0.85 | V |
| | $V_{BE(sat)2}$ | $I_C$=-50mA,$I_B$=-5mA | | | -0.95 | V |
| **Transition frequency** | $f_T$ | $V_{CE}$=-20V,$I_C$=-10mA,f=100MHz | 250 | | | MHz |
| **Collector output capacitance** | $C_{ob}$ | $V_{CB}$=-5V,$I_E$=0,f=1MHz | | | 4.5 | pF |
| **Noise figure** | NF | $V_{CE}$=-5V,$I_c$=-0.1mA,f=1KHz,$R_g$=1KΩ | | | 4 | dB |
| **Delay time** | $t_d$ | $V_{CC}$=-3V, $V_{BE}$=0.5V<br>$I_C$=-10mA , $I_{B1}$=-$I_{B2}$=-1mA | | | 35 | nS |
| **Rise time** | $t_r$ | | | | 35 | nS |
| **Storage time** | $t_S$ | $V_{CC}$=-3V, $I_C$=-10mA<br>$I_{B1}$=-$I_{B2}$=- 1mA | | | 225 | nS |
| **Fall time** | $t_f$ | | | | 75 | nS |



Copyright © All right reserved： Heyuan China Base Electronics Technology Co., Ltd.

## TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

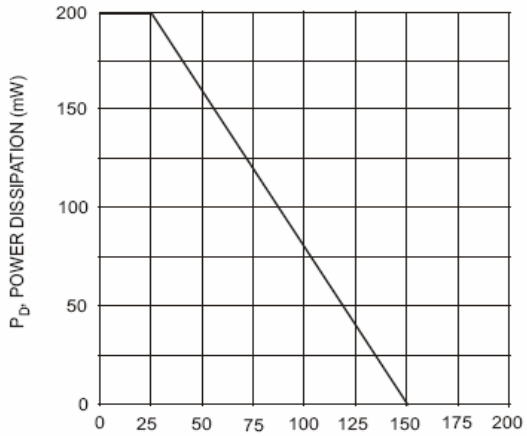



Fig. 1, Max Power Dissipation vs Ambient Temperature

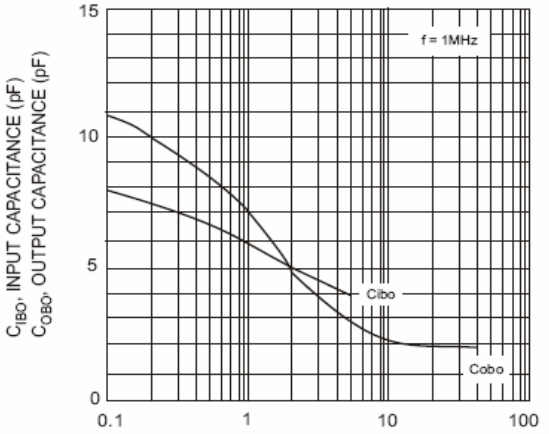



Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage

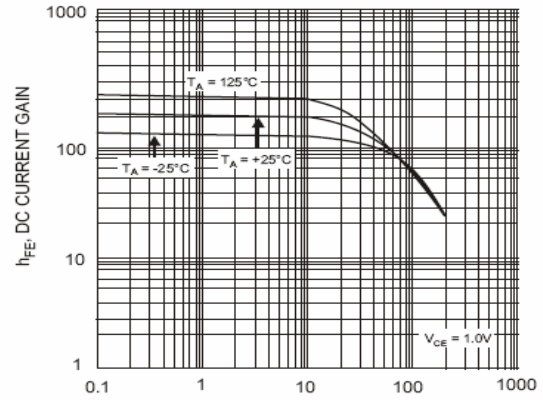



Fig. 3, Typical DC Current Gain vs Collector Current

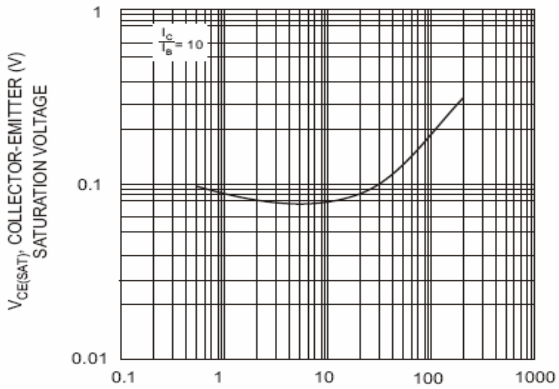



Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

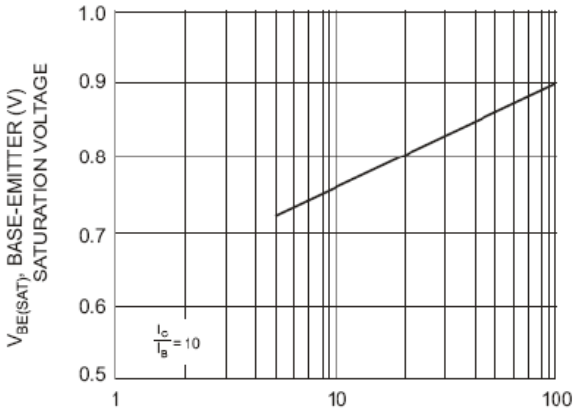



Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current



Copyright © All right reserved: Heyuan China Base Electronics Technology Co., Ltd.