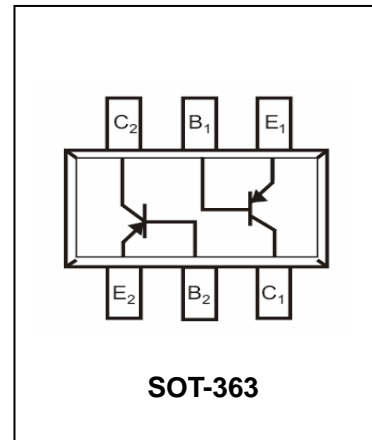


## Dual PNP Small Signal Surface Mount Transistor

## MMDT3906

### FEATURES

- Epitaxial planar die construction.
- Ideal for low power amplification and switching.
- Ultra-small surface mount package
- Also available in lead free version.



### APPLICATIONS

- General switching and amplification

### ORDERING INFORMATION

Type No.	Marking	Package Code
MMDT3906	K3N	SOT-23

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	collector-base voltage	-40	V
V <sub>CEO</sub>	collector-emitter voltage	-40	V
V <sub>EBO</sub>	emitter-base voltage	-5	V
I <sub>C</sub>	collector current -continuous	-0.2	A
P <sub>tot</sub>	total power dissipation	-0.2	W
T <sub>stg</sub>	storage temperature	150	°C
T <sub>j</sub>	junction temperature	-55-150	°C

## Dual PNP Small Signal Surface Mount Transistor

## MMDT3906

### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -10\mu A, I_E = 0$	-40		V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = -1mA, I_B = 0$	-40		V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -10\mu A, I_C = 0$	-5		V
$I_{CBO}$	collector cut-off current	$I_E = 0, V_{CB} = -30V$	-	-0.05	$\mu A$
$I_{EBO}$	emitter cut-off current	$I_C = 0, V_{EB} = -5V$	-	-0.05	$\mu A$
$h_{FE}$	DC current gain	$V_{CE} = -1V, I_C = -0.1mA$	60	-	
		$V_{CE} = -1V, I_C = -1mA$	80	-	
		$V_{CE} = -1V, I_C = -10mA$	100	300	
		$V_{CE} = -1V, I_C = -50mA$	60	-	
		$V_{CE} = -1V, I_C = -100mA$	30	-	
$V_{CE(sat)}$	collector-emitter saturation voltage	$I_C = -10mA, I_B = -1mA$	-	-250	mV
		$I_C = -50mA, I_B = -5mA$	-	-400	mV
$V_{BE(sat)}$	base-emitter saturation voltage	$I_C = -10mA, I_B = -1mA$	-650	-850	mV
		$I_C = -50mA, I_B = -5mA$	-	-950	mV
$C_{ob}$	Output capacitance	$I_E = 0, V_{CB} = -5V; f = 1MHz$	-	4.5	pF
$f_T$	transition frequency	$I_C = -10mA, V_{CE} = -20V, f = 100MHz$	250	-	MHz
NF	noise figure	$I_C = -0.1mA, V_{CE} = -5V$	-	4	dB
$t_d$	delay time	$V_{CC} = -3V, V_{BE(off)} = 0.5V$ $I_C = -10mA, I_{B1} = -I_{B2} = -1mA$	-	35	ns
$t_r$	rise time		-	35	ns
$t_s$	storage time	$V_{CC} = -3V, I_C = -10mA$	-	225	ns
$t_f$	fall time	$I_{B1} = -I_{B2} = -1mA$	-	75	ns

## Dual PNP Small Signal Surface Mount Transistor

## MMDT3906

TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

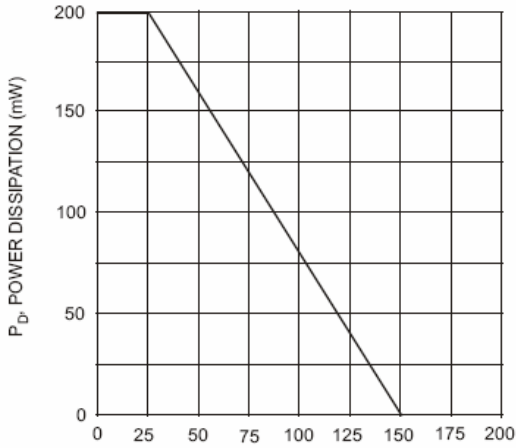


Fig. 1, Max Power Dissipation vs Ambient Temperature

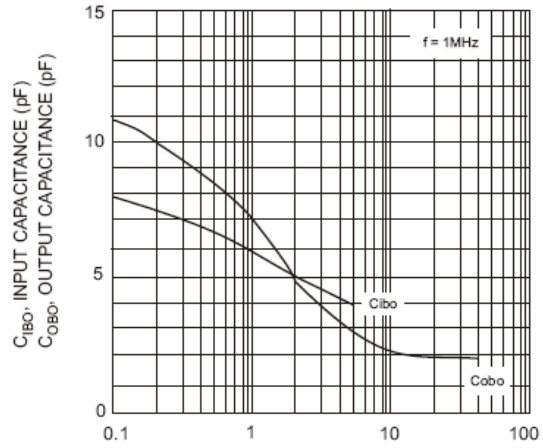


Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage

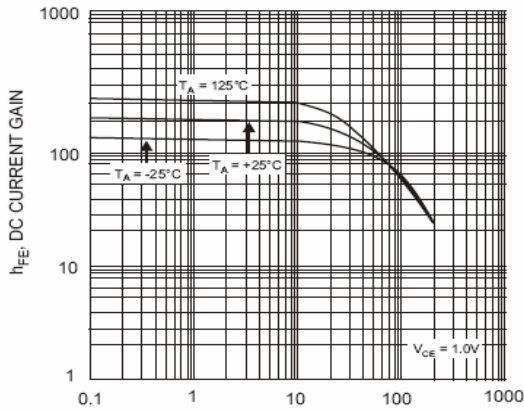


Fig. 3, Typical DC Current Gain vs Collector Current

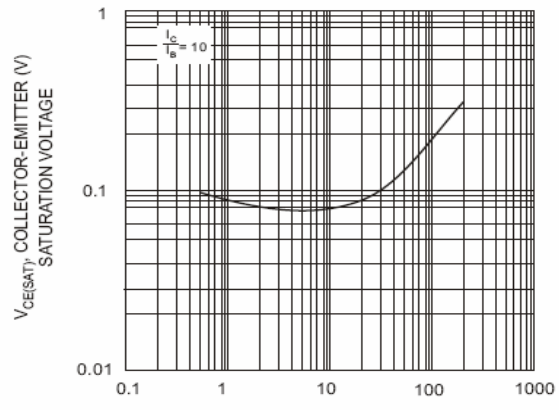


Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

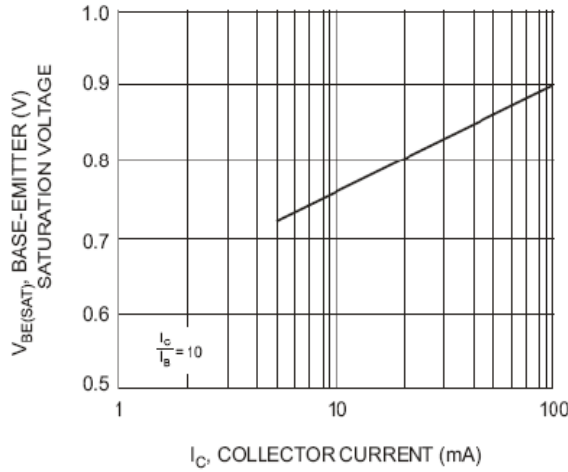


Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current

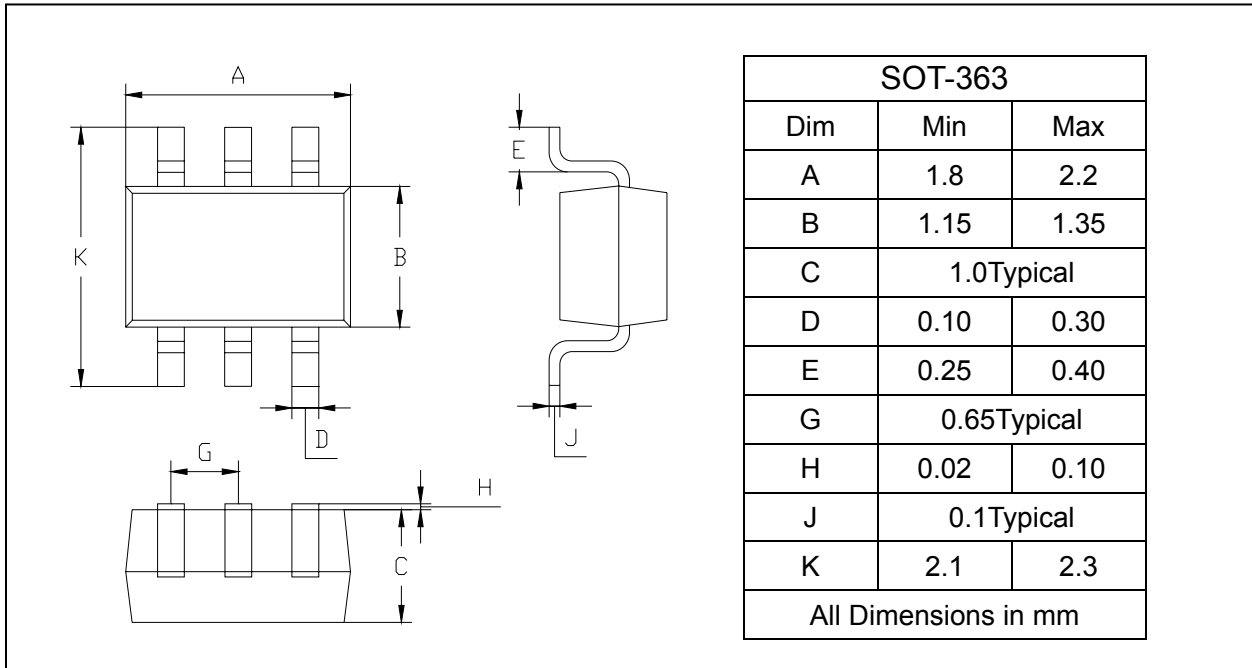
## Dual PNP Small Signal Surface Mount Transistor

## MMDT3906

### PACKAGE OUTLINE

Plastic surface mounted package

SOT-363



### PACKAGE INFORMATION

Device	Package	Shipping
MMDT3906	SOT-363	3000/Tape&Reel