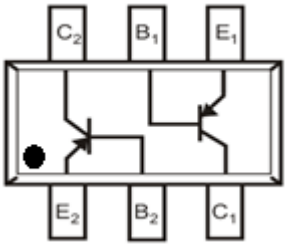
MMDT3906

Dual Bipolar Transistor(PNP+PNP)

FEATURES

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



SOT-363

APPLICATIONS

- General switching and amplification.

ORDERING INFORMATION

Type No.	Marking	Package Code
MMDT3906	K3N	SOT-363

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

SYMBOL	PARAMETER	VALUE	UNIT
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_{tot}	total power dissipation	0.2	W
$R_{\theta JA}$	Thermal resistance, junction to ambient	625	℃ /W
T_{stg}	storage temperature	150	℃
T_j	junction temperature	-55 to +150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=-10μA,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=-10μA,I_C=0	-5		V
I_{CEX}	collector cut-off current	V_{CE}=-30V,$V_{EB(OFF)}$=-3.0V	-	-0.05	μA
I_{BL}	Base cut-off current	V_{CE}=-30V,$V_{EB(OFF)}$=-3.0V	-	-0.05	μA
h_{FE}	DC current gain	V_{CE} =-1V,I_C= -0.1mA V_{CE} =-1V,I_C =-1mA V_{CE} =-1V,I_C =-10mA V_{CE} =-1V,I_C =-50mA V_{CE} =-1V,I_C =-100mA	60 80 100 60 30	- - 300 - -	
$V_{CE(sat)}$	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_{obo}	Output capacitance	I_E =0,V_{CB}=-5V; f =1MHz	-	4.5	pF
C_{ibo}	Input capacitance	I_C=0, V_{EB} =-0.5V; f =1MHz	-	10	pF
f_T	transition frequency	I_C=-1.0mA,V_{CE}=-10V,f=1.0KHz	250	-	MHz
NF	noise figure	I_C=-0.1mA,V_{CE}=-20V,f=100MHz	-	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 I_{B1}=-I_{B2}=-1mA	-	225	ns
t_f	fall time		-	75	ns

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TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

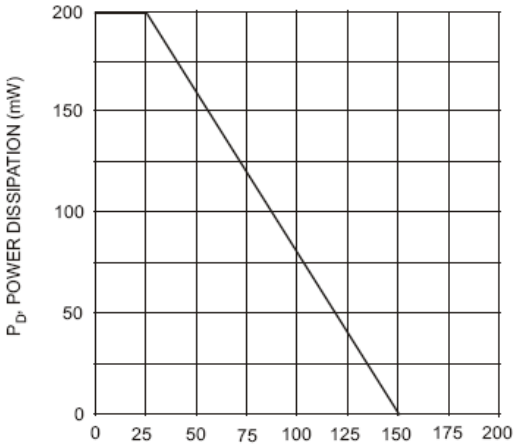

Fig. 1, Max Power Dissipation vs Ambient Temperature

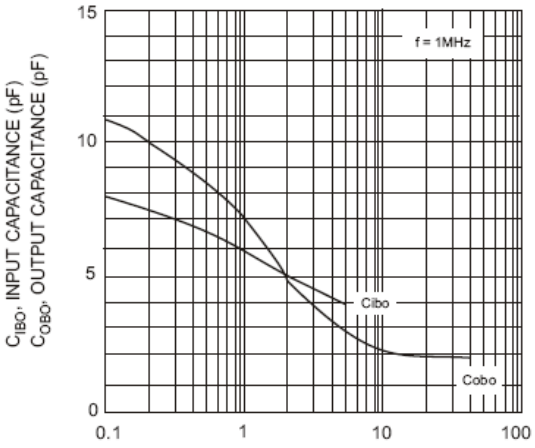

Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage

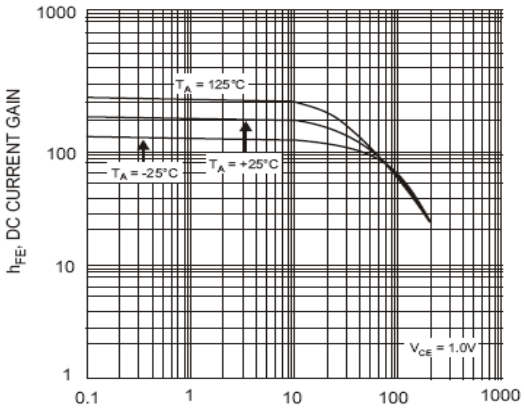

Fig. 3, Typical DC Current Gain vs Collector Current

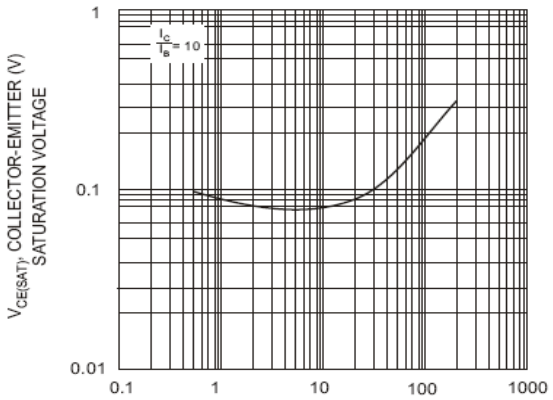

Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

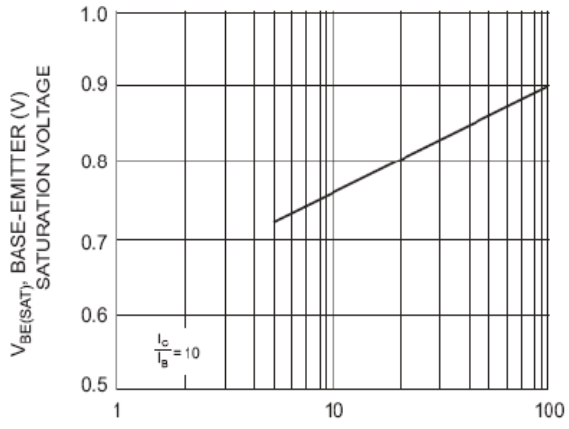

Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current

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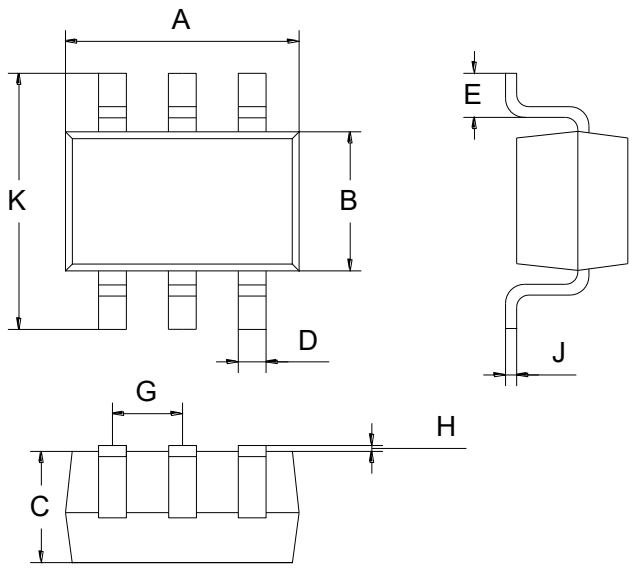
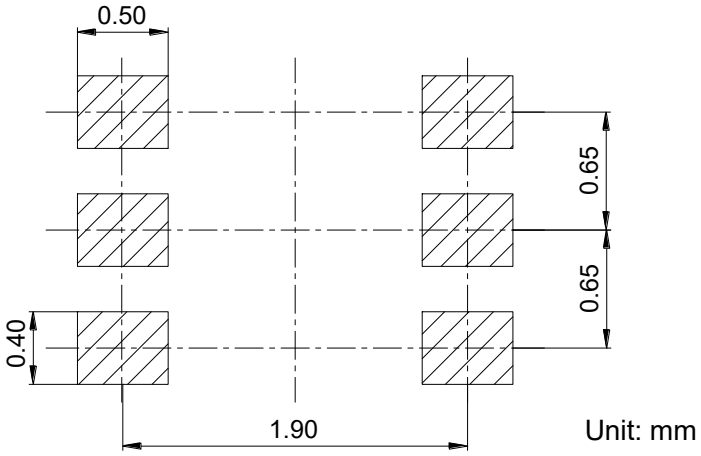
PACKAGE OUTLINE

Plastic surface mounted package



SOT-363		
Dim	Min	Max
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

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