

# MMDT3906

## MMDT3906 SOT-363 Plastic-Encapsulate Transistors

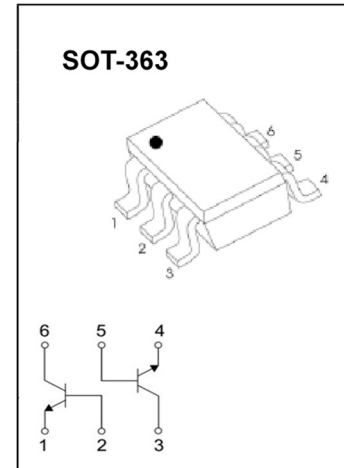
### General description

SOT-363 Plastic-Encapsulate Transistors

### FEATURES

- DUAL TRANSISTOR (PNP+PNP)
- Complementary to MMDT3904
- Ideal for low power amplification and switching

Symbol	Parameter	Value	Units
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	-200	A
P <sub>c</sub>	Collector Power Dissipation	200	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55-+150	°C

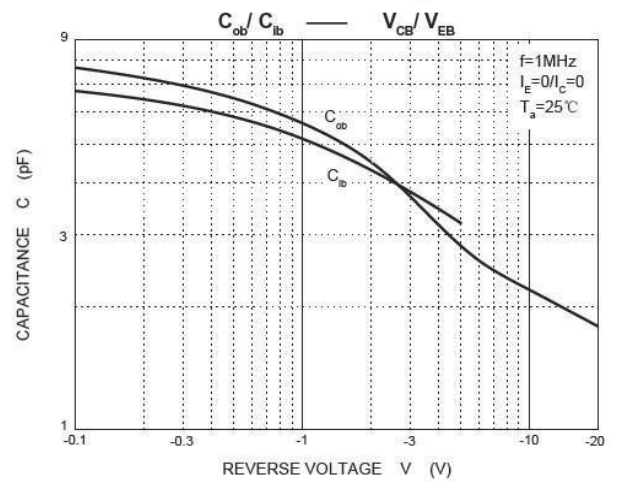
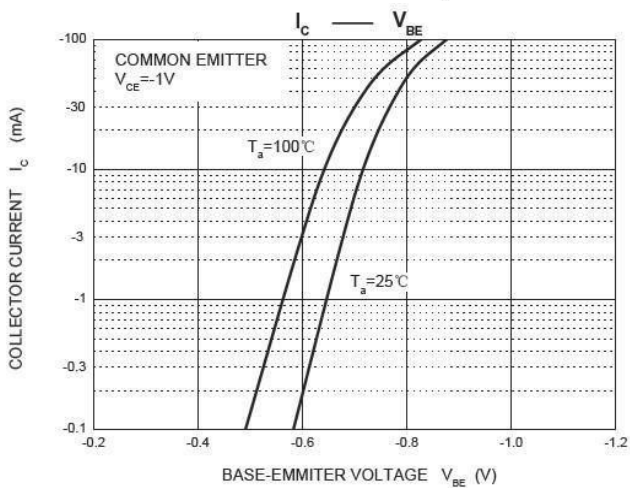
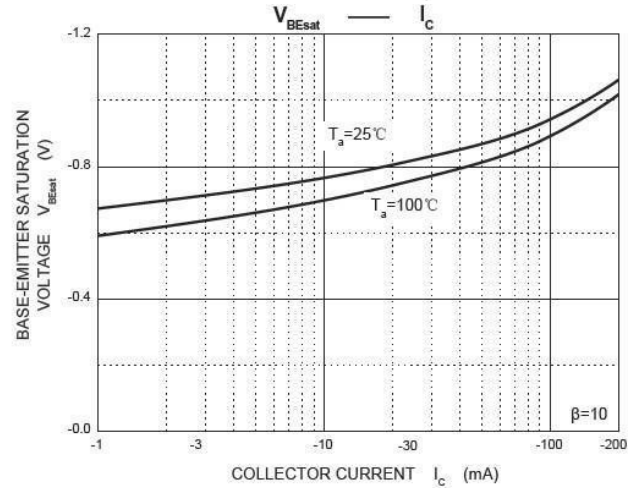
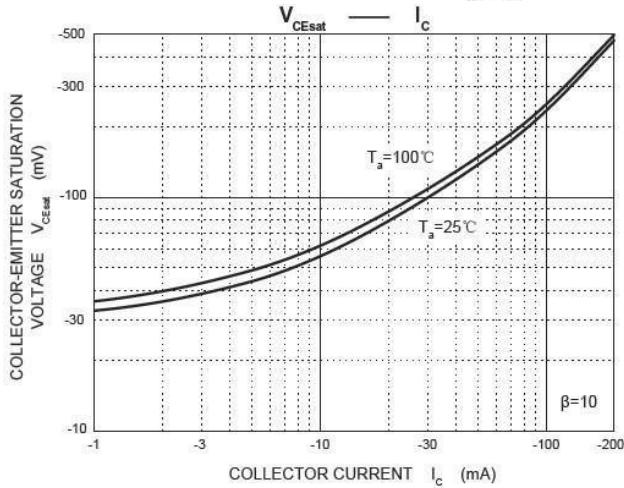
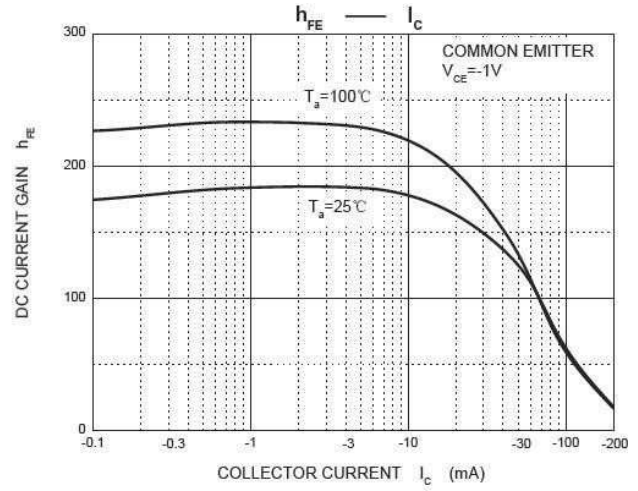
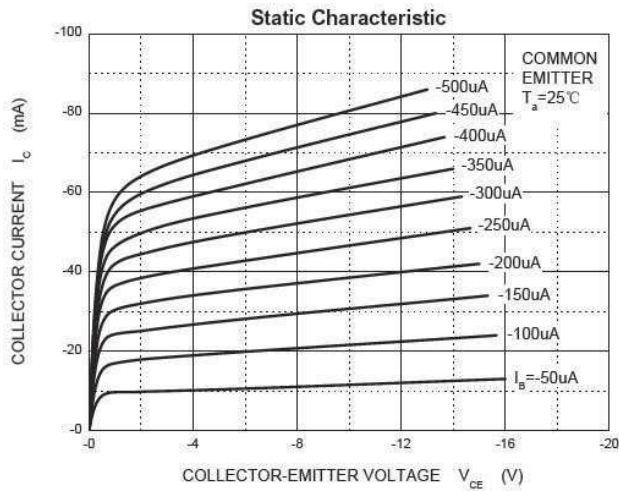


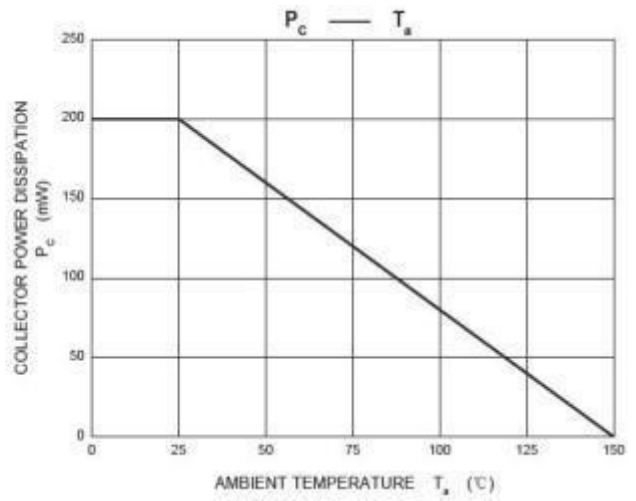
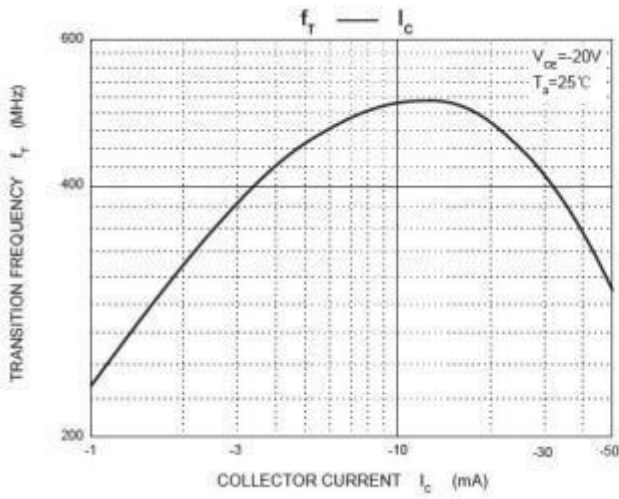
MARKING : K3N

### Absolute Maximum Ratings(T<sub>a</sub>=25°C unless otherwise specified)

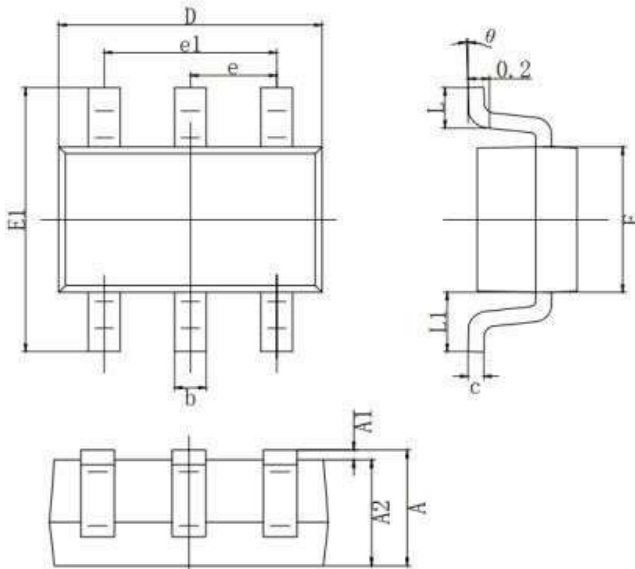
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V(BR)CBO	I <sub>C</sub> =10μA, I <sub>E</sub> =0	-40			V
Collector-emitter breakdown voltage	V(BR)CEO	I <sub>C</sub> =1mA, I <sub>B</sub> =0	-40			V
Emitter-base breakdown voltage	V(BR)EBO	I <sub>E</sub> =10μA, I <sub>C</sub> =0	-5			V
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0			-50	nA
Collector cut-off current	I <sub>CEX</sub>	V <sub>CE</sub> =-30V, V <sub>BE(off)</sub> =-3V			-50	nA
DC current gain	hFE(1)	V <sub>CE</sub> =-1V, I <sub>C</sub> =-0.1mA	60			
	hFE(2)	V <sub>CE</sub> =-1V, I <sub>C</sub> =-1mA	80			
	hFE(3)	V <sub>CE</sub> =-1V, I <sub>C</sub> =-10mA	100		300	
	hFE(4)	V <sub>CE</sub> =-1V, I <sub>C</sub> =-50mA	60			
	hFE(5)	V <sub>CE</sub> =-1V, I <sub>C</sub> =-100mA	30			
Collector-emitter saturation voltage	V <sub>CE(sat)1</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA			-0.25	V
	V <sub>CE(sat)2</sub>	I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA			-0.4	V
Base-emitter saturation voltage	V <sub>BE(sat)1</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA	-0.65		-0.85	V
	V <sub>BE(sat)2</sub>	I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA			-0.95	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-20V, I <sub>C</sub> =-10mA, f=100MHz	250			MHz
Delay time	t <sub>d</sub>	V <sub>CC</sub> =3V, V <sub>BE(off)</sub> =-0.5V			35	nS
Rise time	t <sub>r</sub>	I <sub>C</sub> =10mA, I <sub>B1</sub> =-I <sub>B2</sub> =1mA			35	nS
Storage time	t <sub>s</sub>	V <sub>CC</sub> =3V, I <sub>C</sub> =10mA			225	nS
Fall time	t <sub>f</sub>	I <sub>B1</sub> =-I <sub>B2</sub> =1mA			75	nS

## MMDT3906 Typical characteristics



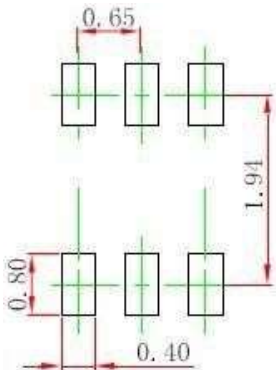


## SOT-363 PACKAGE OUTLINE Plastic surface mounted package



SYMBOL	MILLIMETER	
	MIN	MAX
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
e	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.460
theta	0°	8°

Precautions: PCB Design  
 Recommended land dimensions for SOT-363. Electrode patterns for PCBs



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05\text{mm}$ .
  3. The pad layout is for reference purposes only.

## **Important Notice and Disclaimer**

DOESHARE has used reasonable care in preparing the information included in this document, but DOESHARE does not warrant that such information is error free. DOESHARE assumes no liability whatsoever for any damages incurred by you resulting from errors in or omissions from the information included herein.

DOESHARE no warranty, representation or guarantee regarding the documents, circuits and products specification, DOESHARE reservation rights to make changes for any documents, products, circuits and specifications at any time without notice.

Purchasers are solely responsible for the choice, selection and use of the DOESHARE products and services described herein, and DOESHARE assumes no liability whatsoever relating to the choice, selection or use of the products and services described herein.

No license, express or implied, by implication or otherwise under any intellectual property rights of DOESHARE.

Resale of DOESHARE products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by DOESHARE for the DOESHARE product or service described herein and shall not create or extend in any manner whatsoever, any liability of DOESHARE.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Bipolar Transistors - BJT category](#):*

*Click to view products by [Doeshare manufacturer](#):*

Other Similar products are found below :

[619691C](#) [MCH4017-TL-H](#) [MMBT-2369-TR](#) [BC546/116](#) [BC557/116](#) [BSW67A](#) [NJVMJD148T4G](#) [NTE123AP-10](#) [NTE153MCP](#) [NTE16](#)  
[NTE195A](#) [NTE92](#) [2N4401-A](#) [2N6728](#) [2SA1419T-TD-H](#) [2SA2126-E](#) [2SB1204S-TL-E](#) [2SC2712S-GR,LF](#) [2SC4731T-AY](#) [FJPF5304DTU](#)  
[2N2369ADCSM](#) [2N2907A](#) [2N3904-NS](#) [2N5769](#) [2SB1324-TD-E](#) [2SC2412KT146S](#) [2SC3902S](#) [2SC5231C8-TL-E](#) [2SD1685F](#) [CPH6501-TL-](#)  
[E](#) [MCH4021-TL-E](#) [MJE340](#) [Jantx2N5416](#) [US6T6TR](#) [NJL0281DG](#) [732314D](#) [CPH3121-TL-E](#) [CPH6021-TL-H](#) [873787E](#) [IMZ2AT108](#)  
[UMX21NTR](#) [MCH6102-TL-E](#) [NJL0302DG](#) [TTA1452B,S4X\(S](#) [2N3879](#) [NTE13](#) [NTE26](#) [NTE282](#) [NTE323](#) [NTE350](#)