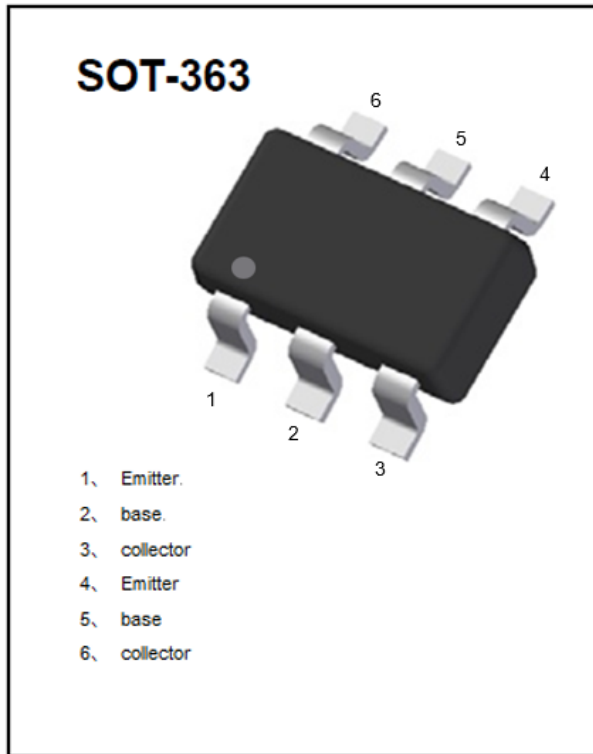


Dual PNP Small Signal Transistor



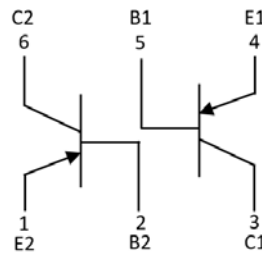
Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- PNP
- Moisture Sensitivity Level 1
- Part no. with suffix "Q" means AEC-Q101 qualified

Mechanical Data

- **Package:** SOT-363
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** K3N

Equivalent circuit



■ Maximum Ratings (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Collector-Emitter Voltage	V_{CEO}	V	$I_C = -1\text{mA}$, $I_B = 0$	-40
Collector-Base Voltage	V_{CBO}	V	$I_C = -10\mu\text{A}$, $I_E = 0$	-40
Emitter-Base Voltage	V_{EBO}	V	$I_E = -10\mu\text{A}$, $I_C = 0$	-5
Collector Current	I_C	mA		-200
Collector Power Dissipation (*)	P_C	mW		200
Junction Temperature	T_j	°C		-55 to +150
Storage Temperature	T_{stg}	°C		-55 to +150

(*) Device mounted on FR-4 PCB 1.0 x 1.0 x 0.06 inch



MMDT3906Q

■ Electrical Characteristics (Ta=25°C unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C = -10\mu A, I_E = 0$	-40		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C = -1mA, I_B = 0$	-40		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E = -10\mu A, I_C = 0$	-5		
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB} = -30V, I_E = 0$			-50
Emitter-Base Cut-off current	I_{EBO}	nA	$V_{EB} = -5V, I_C = 0$			-50
DC current gain	$h_{FE(1)}$		$V_{CE} = -1V, I_C = -0.1mA$	40		
	$h_{FE(2)}$		$V_{CE} = -1V, I_C = -1mA$	70		
	$h_{FE(3)}$		$V_{CE} = -1V, I_C = -10mA$	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	$V_{CE(sat)}$	V	$I_C = -10mA, I_B = -1mA$			-0.25
			$I_C = -50mA, I_B = -5mA$			-0.4
Baser-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C = -10mA, I_B = -1mA$	-0.65		-0.85
			$I_C = -50mA, I_B = -5mA$			-0.95
Collector-base Output Capacitance	C_{obo}	pF	$V_{CB} = -5.0Vdc, f = 1.0MHz, I_E = 0$			4.5
Transition frequency	f_T	MHz	$V_{CE} = -20V, I_C = -10mA, f = 100MHz$	250		
Noise figure	NF	dB	$V_{CE} = -5V, I_C = -0.1mA, f = 1kHz, R_s = 1K\Omega$			4

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMDT3906Q	F2	Approximate 0.009g	3000	30000	120000	7" reel



■ Characteristics (Typical)

Fig.1 - Static Characteristic

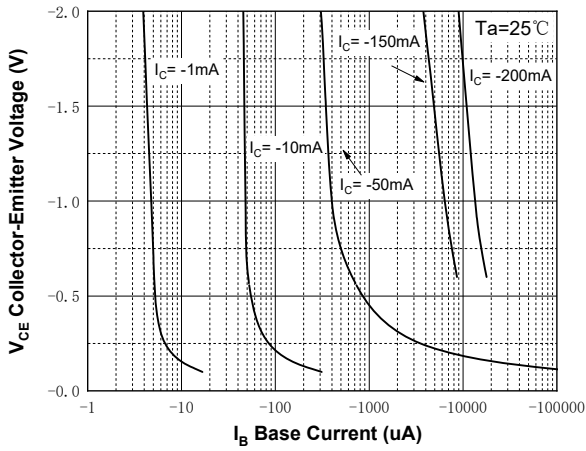


Fig.2 - DC Current Gain

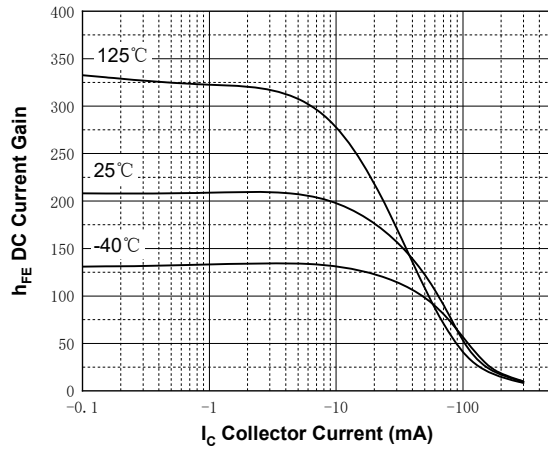


Fig.3 - Collector-Emitter Saturation Voltage

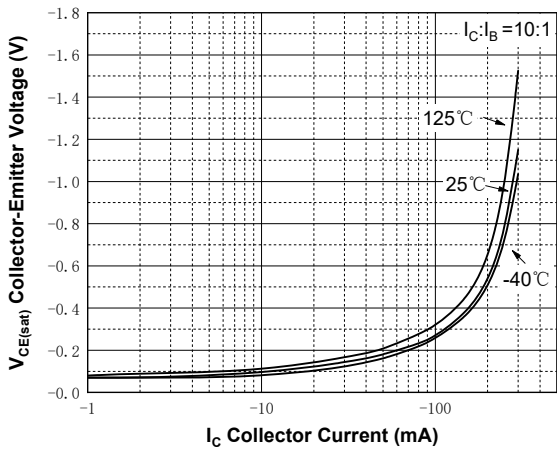


Fig.4 - Base-Emitter Saturation Voltage

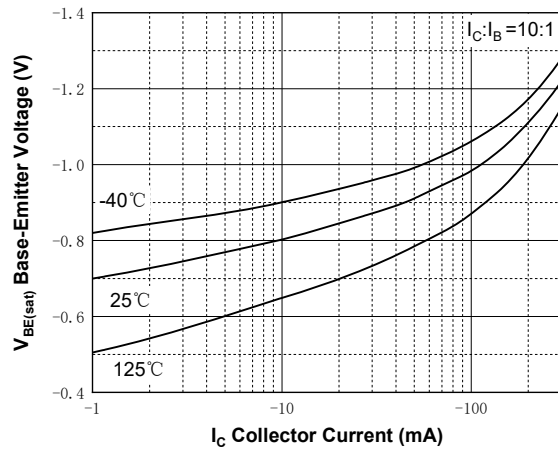
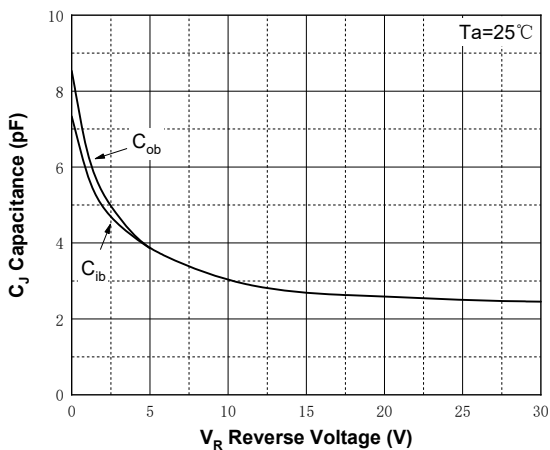


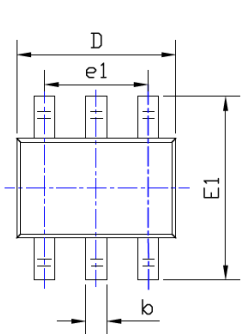
Fig.5 - Capacitance



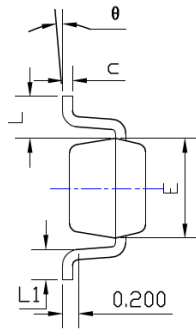


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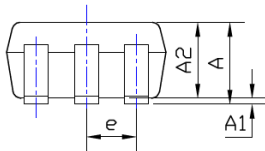
■SOT-363 Package Outline Dimensions & Suggested Pad Layout



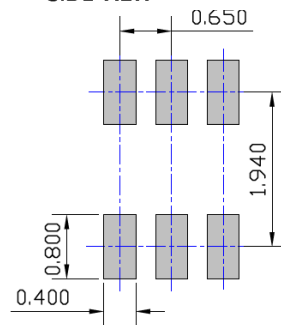
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.014	0.150	0.350
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
θ	0°	8°	0°	8°

NOTE:

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.



MMDT3906Q

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