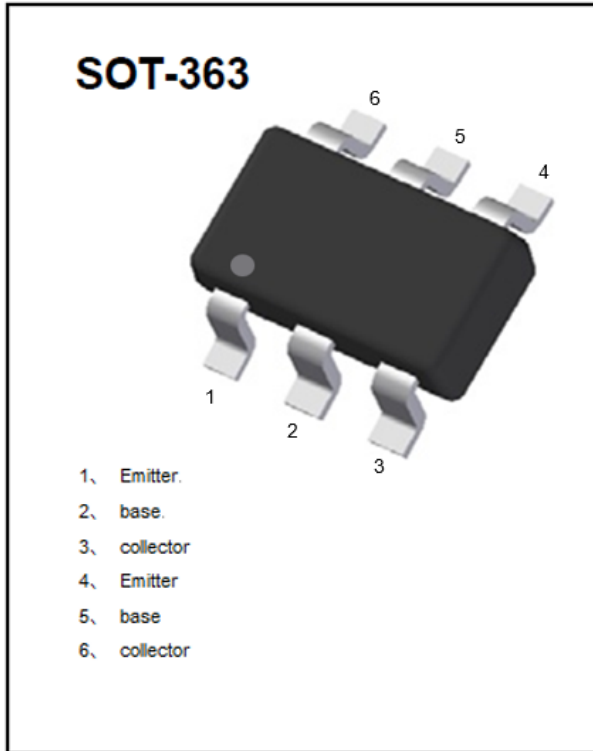


Dual PNP Small Signal Transistor



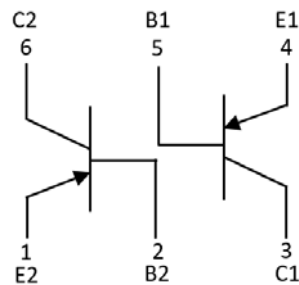
Features

- 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	$I_C = -1mA, I_B = 0$	-40
Collector-Base Voltage	V_{CBO}	V	$I_C = -10\mu A, I_E = 0$	-40
Emitter-Base Voltage	V_{EBO}	V	$I_E = -10\mu A, I_C = 0$	-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



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)

PREFERRED 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

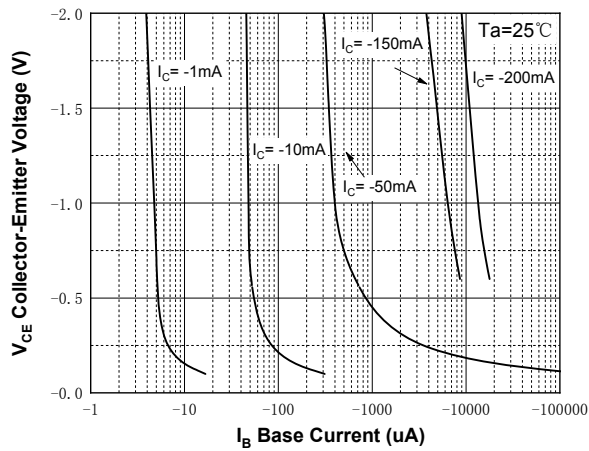


Fig.2 - DC Current Gain

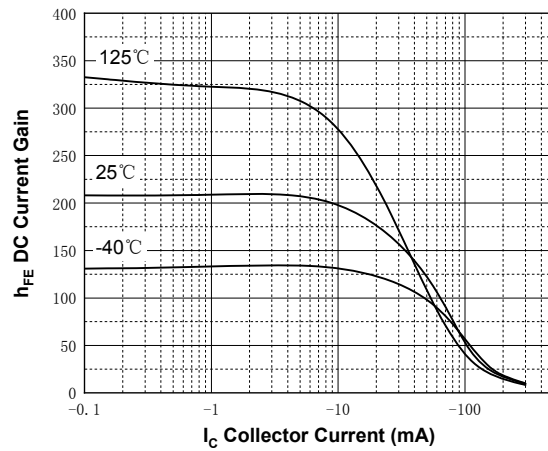


Fig.3 - Collector-Emitter Saturation Voltage

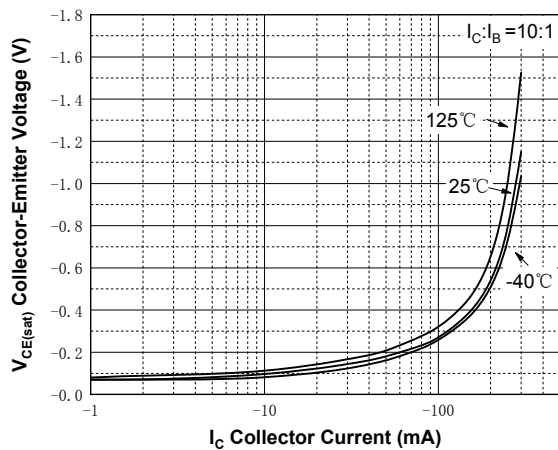


Fig.4 - Base-Emitter Saturation Voltage

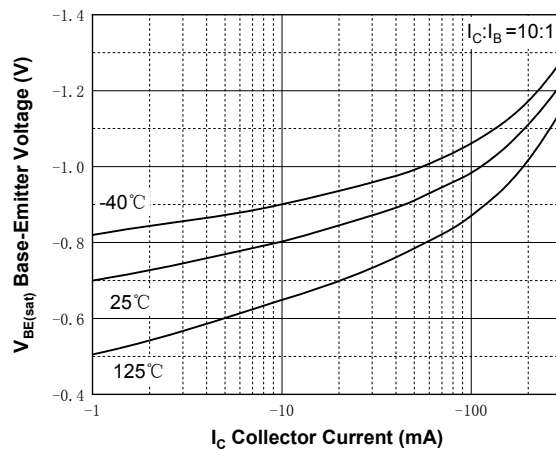
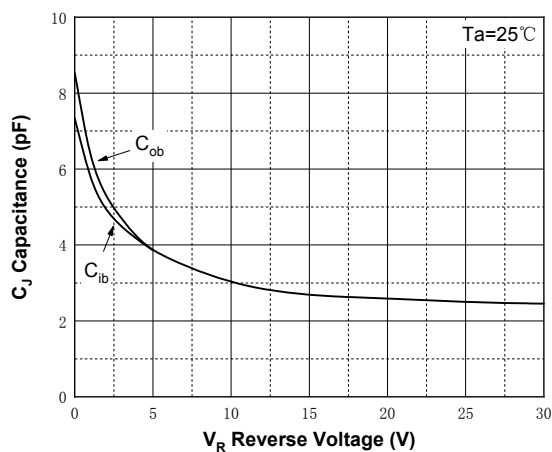
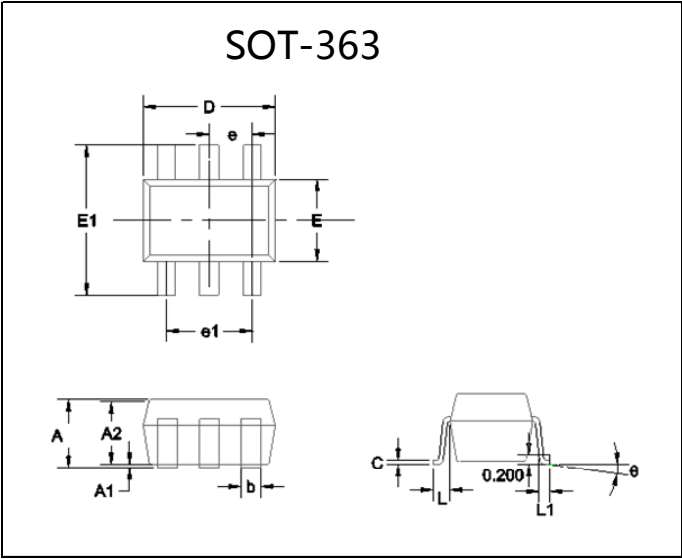


Fig.5 - Capacitance



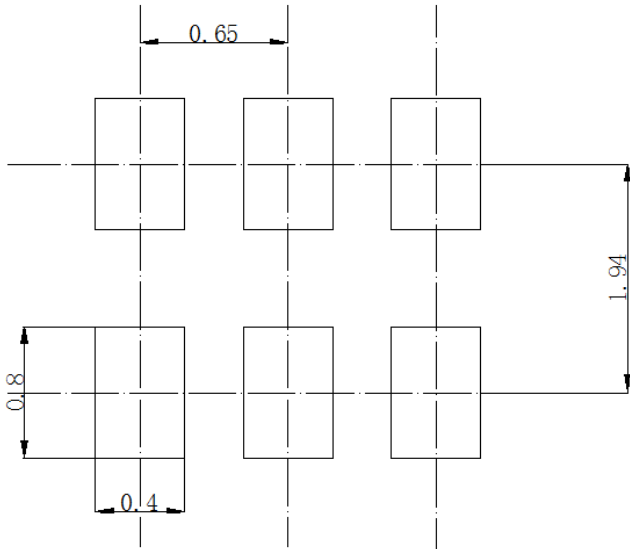


■SOT-363 Package Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.035	0.043	0.90	1.10	
A1	0.000	0.004	0.00	0.10	
A2	0.035	0.039	0.90	1.00	
b	0.006	0.014	0.15	0.35	
c	0.002	0.010	0.05	0.25	
D	0.071	0.087	1.80	2.20	
E	0.045	0.053	1.15	1.35	
E1	0.085	0.096	2.15	2.45	
e	0.026Typ		0.65Typ		
e1	0.047	0.055	1.20	1.40	
L	0.021Typ		0.525Typ		
L1	0.010	0.018	0.26	0.46	
θ	0°	8°	0°	8°	

■SOT-363 Soldering Footprint



Unit: mm



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Rev	Date	Revision
1.0	06-Oct-21	Add Datasheet