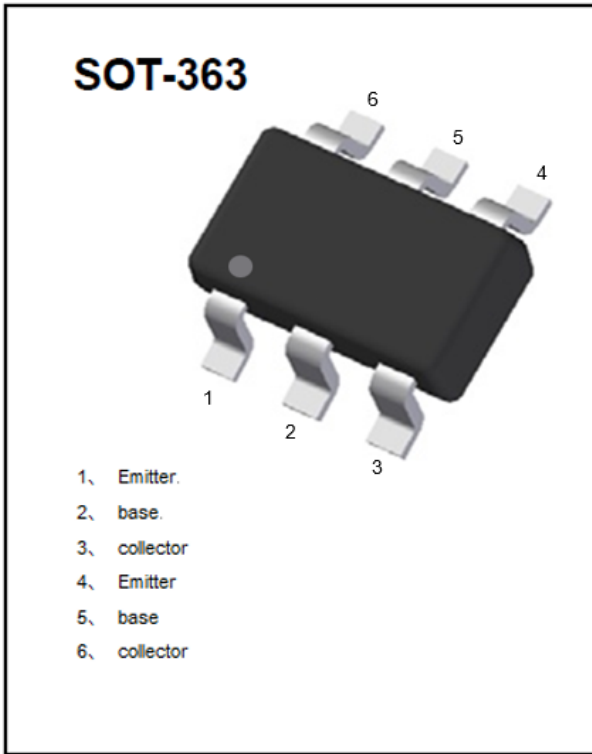


Dual NPN Small Signal Transistor



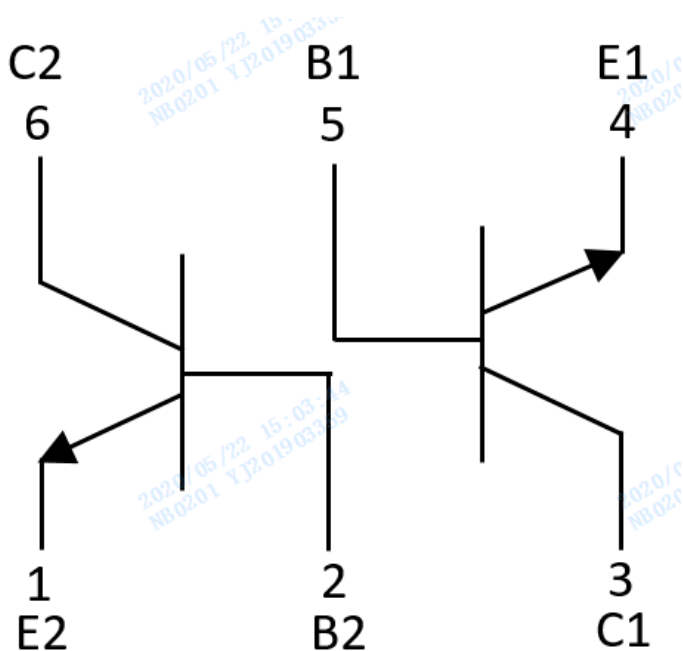
Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- Ideal for Medium Power Amplification and Switching
- 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:** K4N

■Equivalent circuit





MMDT5551Q

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

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	VCBO	V	IC=100μA,IE=0	180
Collector-Emitter Voltage	VCEO	V	IC=1mA,IB=0	160
Emitter-Base Voltage	VEBO	V	IE=10μA,IC=0	6
Collector Current -Continuous	IC	mA		600
Total Device Dissipation	PC	mW		200
Junction Temperature	Tj	°C		-55 to +150
Storage Temperature	TSTG	°C		-55 to +150

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

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V _{CBO}	V	IC=100μA,IE=0	180		
Collector-emitter breakdown voltage	V _{CEO}	V	IC=1mA,IB=0	160		
Emitter-base breakdown voltage	V _{EBO}	V	IE=10μA,IC=0	6		
Collector cut-off current	I _{CBO}	nA	VCB=120V,IE=0			50
Emmitter cut-off current	I _{EBO}	nA	VEB=4V, IC=0			50
DC current gain	h _{FE1}		VCE=5V,IC=1mA	80		
	h _{FE2}		VCE=5V,IC=10mA	100		300
	h _{FE3}		VCE=5V,IC=50mA	50		
Collector-emitter saturation voltage	V _{CE(sat)}	V	IC=10mA,IB=1mA			0.15
Collector-emitter saturation voltage	V _{CE(sat)}	V	IC=50mA,IB=5mA			0.2
Base-emitter saturation voltage	V _{BE(sat)}	V	IC=10mA,IB=1mA			1
Base-emitter saturation voltage	V _{BE(sat)}	V	IC=50mA,IB=5mA			1
Transition frequency	f _T	MHz	VCE=10V,IC=10mA,f=100MHz	100		300
Output Capacitance	Cob	pF	VCB=10V, IE=0, f=1.0MHz			6
Noise Figure	NF	dB	VCE=5V, IC=0.2mA, f=1kHz, RS=1KΩ			8

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMDT5551Q	F2	Approximate 0.009g	3000	30000	120000	7" reel



■ Characteristics (Typical)

Fig.1-Static Characteristic

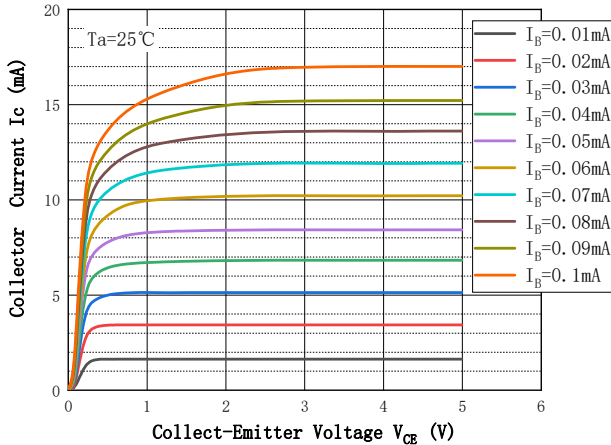


Fig.2 - DC Current Gian

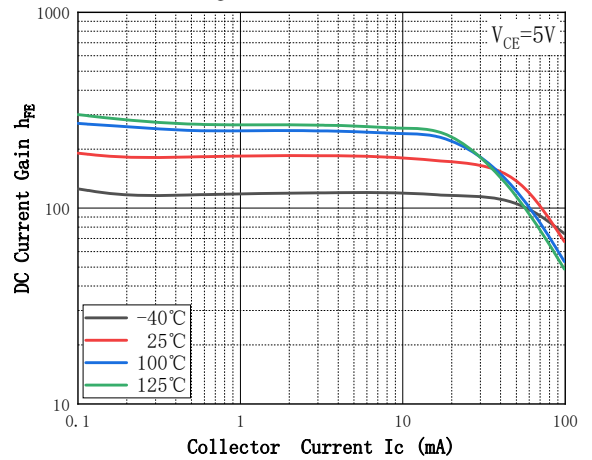


Fig.3 - Collect-Emittor Saturation Voltage

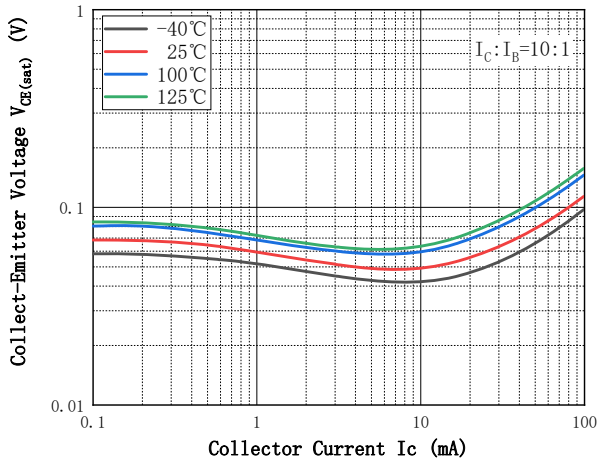


Fig.4 - Base-Emittor Voltage

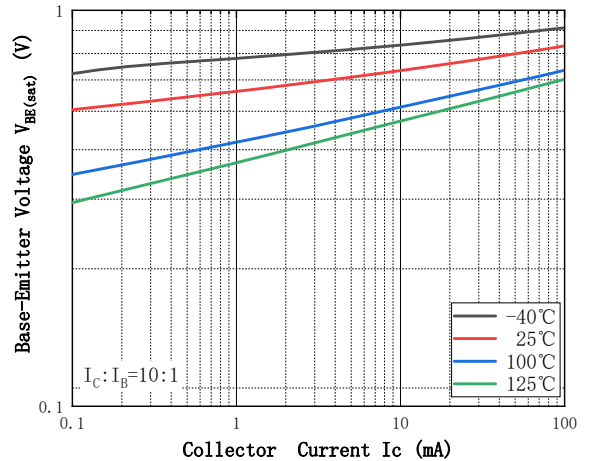


Fig.5 - Base-Emittor On Voltage

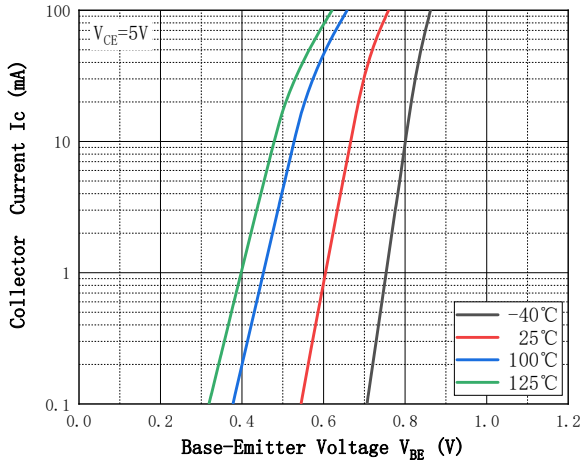
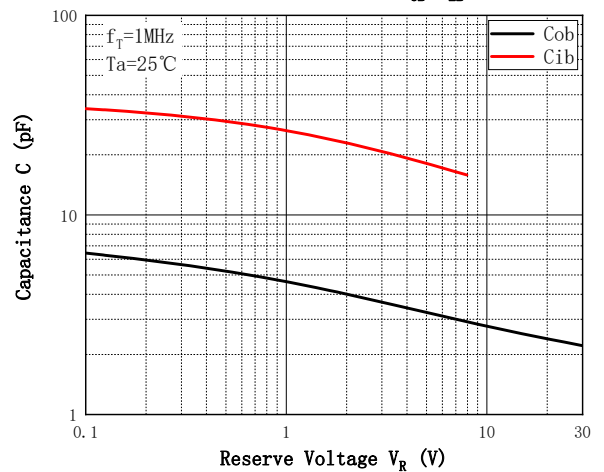


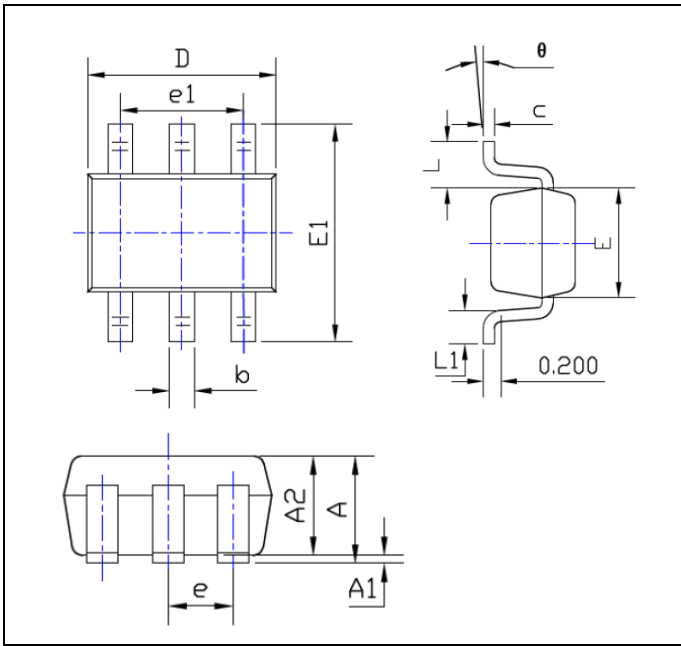
Fig.6 - Cob/Cib— V_{CB}/V_{EB}





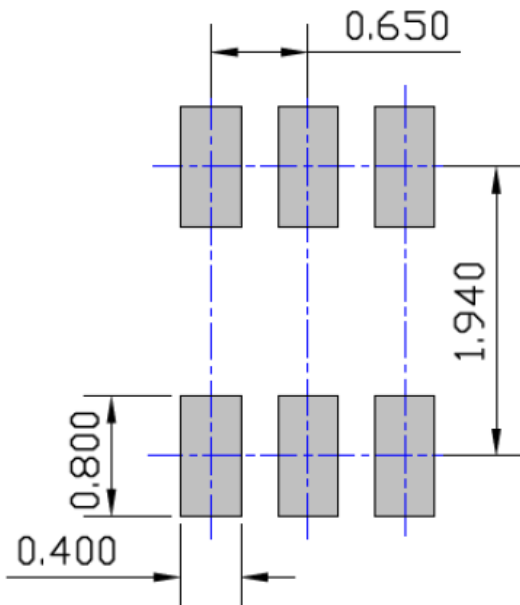
MMDT5551Q

■SOT-363 Package Outline Dimensions



DIMENSIONS				
SYMBOL	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
theta	0°	8°	0°	8°

■SOT-363 Soldering Footprint



Unit: mm



MMDT5551Q

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