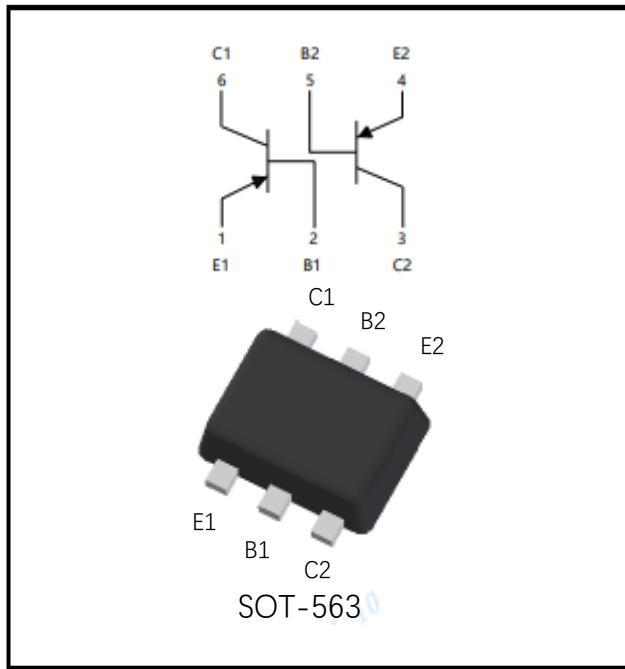


Dual PNP Small Signal Transistor



Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- PNP

Mechanical Data

- **Package:** SOT-563
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** KAR
- **Solid point:** A1 positioning point

■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		150
Junction Temperature	T_j	°C		-55 to +150
Storage Temperature	T_{stg}	°C		-55 to +150



MMDT3906V

■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	$V_{CB}=-40V, I_E=0$			-100
Collector Cutoff Current	I_{CEX}	nA	$V_{CE}=-30V, V_{EB}(OFF)=-3V$			-50
Emitter-Base Cut-off current	I_{EBO}	nA	$V_{EB}=-5V, I_C=0$			-100
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	$V_{CB}=-5.0V_{dc}, f=1.0MHz, I_E=0$			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)

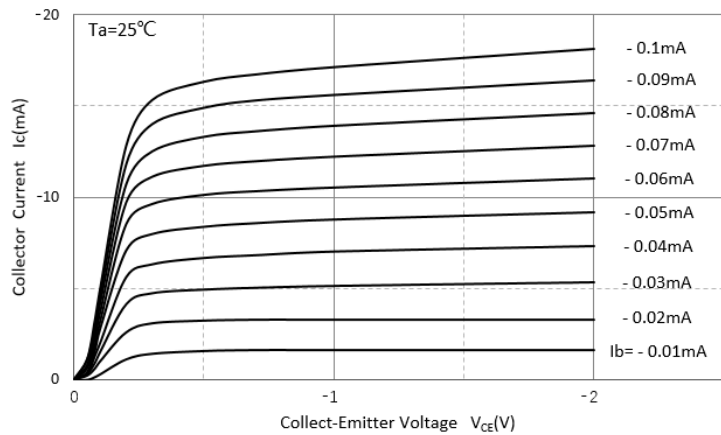
Prefered P/N	Packing Code	Unit Weight(G)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
MMDT3906V	F2	Approximate 0.0035	3000	30000	120000	7" reel



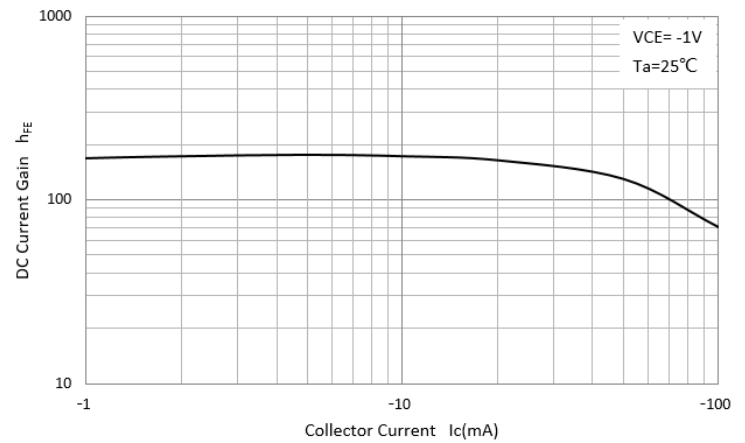
MMDT3906V

■ Characteristics (Typical)

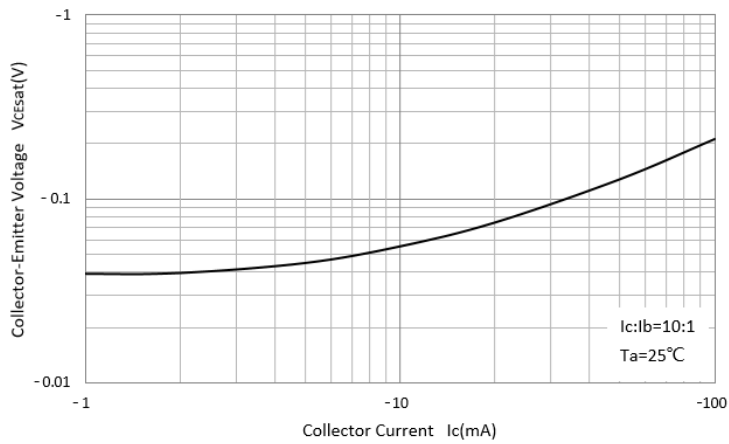
Static Characteristic



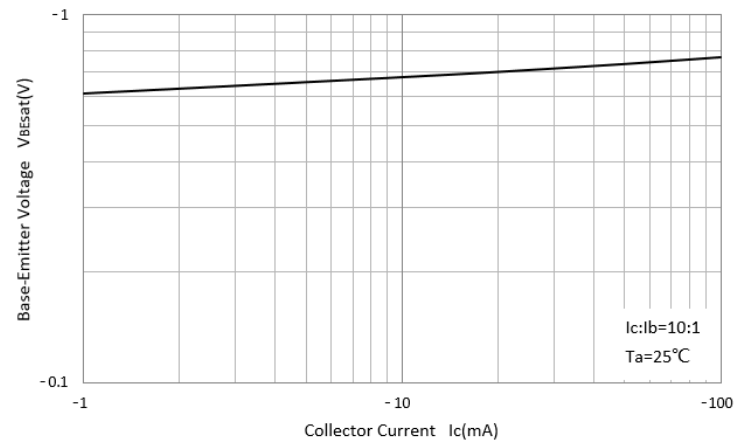
DC Current Gain



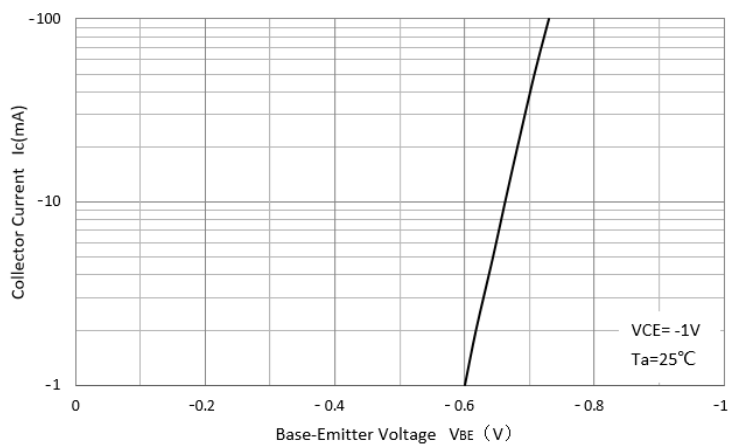
Collector-Emittor Saturation Voltage



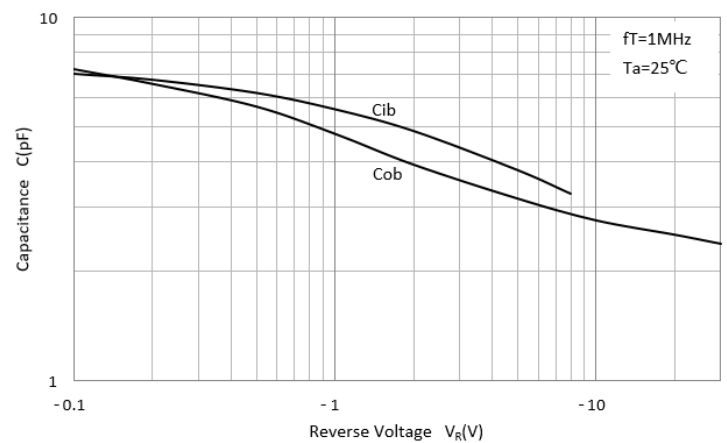
Base-Emittor Saturation Voltage



Base-Emittor On Voltage



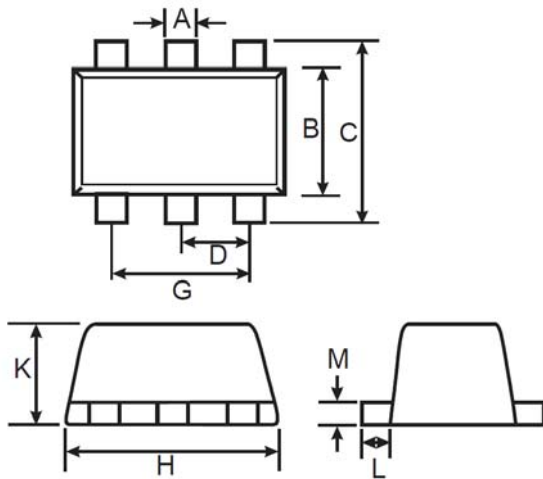
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$





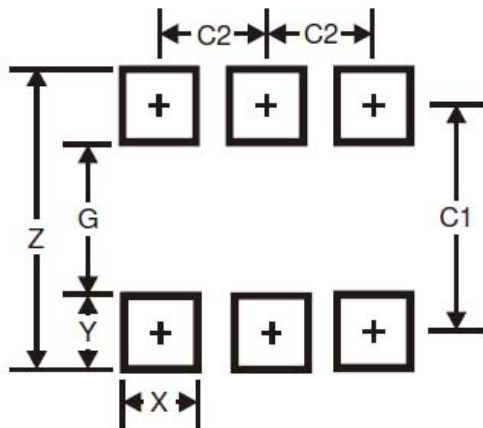
MMDT3906V

■ SOT-563 Package Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.006	0.011	0.15	0.30
B	0.043	0.051	1.10	1.30
C	0.059	0.067	1.50	1.70
D	0.016	0.024	0.40	0.60
G	0.035	0.043	0.90	1.10
H	0.059	0.067	1.50	1.70
K	0.021	0.026	0.55	0.65
L	0.004	0.011	0.10	0.30
M	0.004	0.007	0.10	0.18

■ SOT-563 Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.2
G	1.2
X	0.375
Y	0.5
C1	1.7
C2	0.5



Disclaimer

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