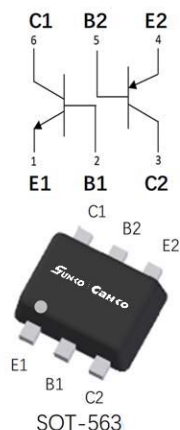


MMDT2907V

Dual PNP Small Signal Transistor



Features

- Moisture sensitivity level 1
- Halogen free and
- Surface mount package ideally suited for automatic Insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

- **Package:** SOT-563
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ Maximum Ratings ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				KAU
Collector-base voltage	V_{CBO}	V	$I_C=-10\mu\text{A}, I_E=0$	-60
Collector-emitter voltage	V_{CEO}	V	$I_C=-10\text{mA}, I_B=0$	-60
Emitter-base voltage	V_{EBO}	V	$I_E=-10\mu\text{A}, I_C=0$	-5
Collector current	I_C	mA		-600
Power dissipation	P_D	mW		150
Junction temperature	T_J	$^{\circ}\text{C}$		-55 to +150
Storage temperature	T_{STG}	$^{\circ}\text{C}$		-55 to +150

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■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V _{(BR)CBO}	V	I _C =-10μA, I _E =0	-60		
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =-10mA, I _B =0	-60		
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =-10μA, I _C =0	-5		
Collector-base cut-off current	I _{CBO}	nA	V _{CB} =-50V, I _B =0			-10
Collector cut-off current	I _{CEX}	nA	V _{CE} =-30V, I _{BE} =-0.5V			-50
Emitter-base cutoff current	I _{EBO}	nA	V _{EB} =-5V, I _C =0			-10
DC current gain	h _{FE1}		V _{CE} =-10V, I _C =-0.1mA	75		
	h _{FE2}		V _{CE} =-10V, I _C =-1mA	100		
	h _{FE3}		V _{CE} =-10V, I _C =-10mA	100		
	h _{FE4}		V _{CE} =-10V, I _C =-150mA	100		300
	h _{FE5}		V _{CE} =-10V, I _C =-500mA	50		
Collector-emitter saturation voltage	V _{CE(sat)1}	V	I _C =-150mA, I _B =-15mA			-0.4
	V _{CE(sat)2}	V	I _C =-500mA, I _B =-50mA			-1.6
Base-emitter saturation voltage	V _{BE(sat)1}	V	I _C =-150mA, I _B =-15mA			-1.3
	V _{BE(sat)2}	V	I _C =-500mA, I _B =-50mA			-2.6
Transition frequency	f _T	MHz	V _{CB} =-50V, I _C =50mA, f=100MHz	200		
Collector-base output capacitance	Cob	pF	V _{CB} =-10V, I _E =0, f=1MHz			8

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	833
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/W	666

Note:

(1) Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 25.4mm*25.4mm copper pad areas

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■ Characteristics

Fig 1: Static Characteristics

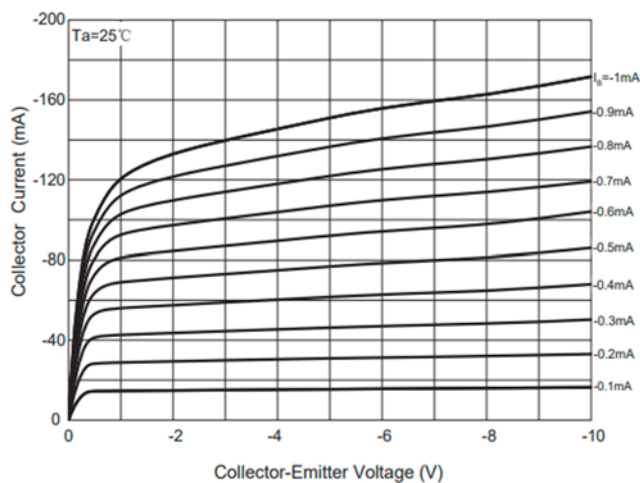


Fig 2: DC Current Gain Characteristics

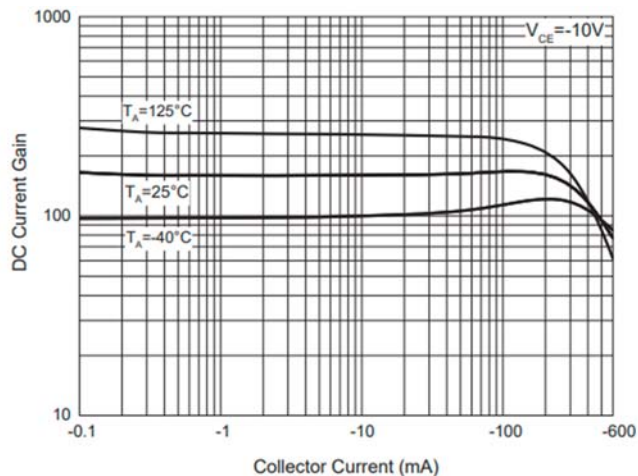


Fig 3: Collector-Emitter Saturation Voltage

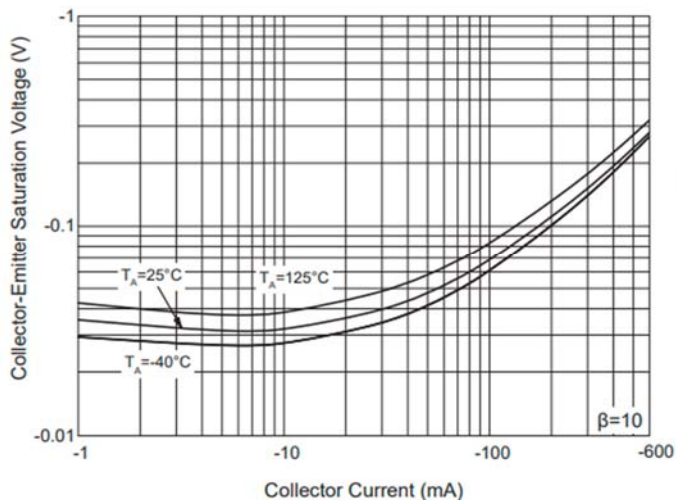


Fig 4: Base-Emitter Saturation Voltage

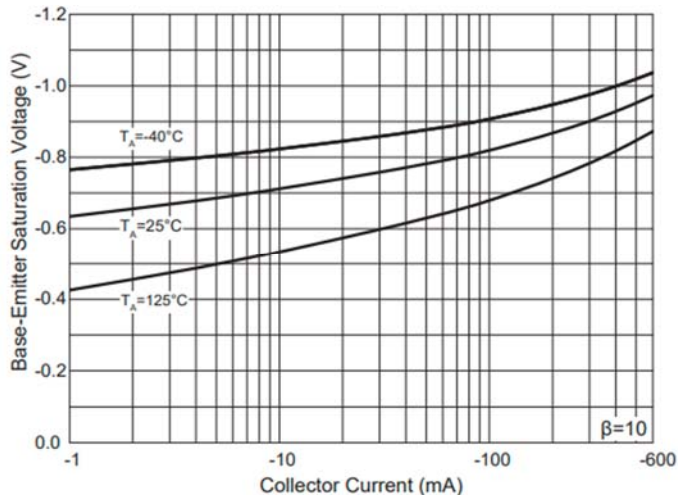


Fig 5: Base-Emitter on Voltage

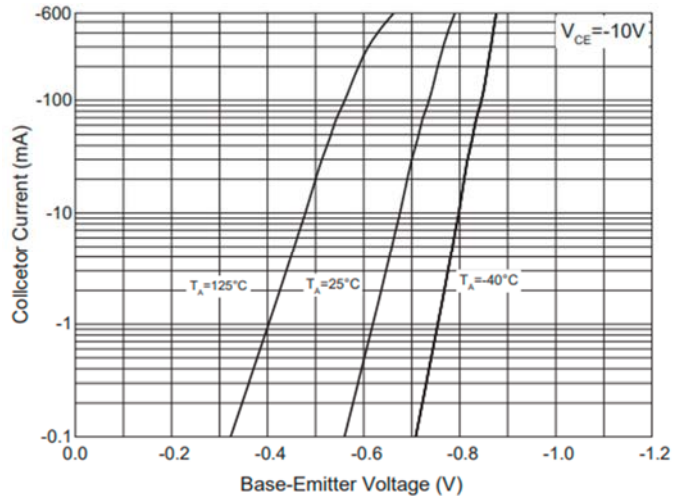
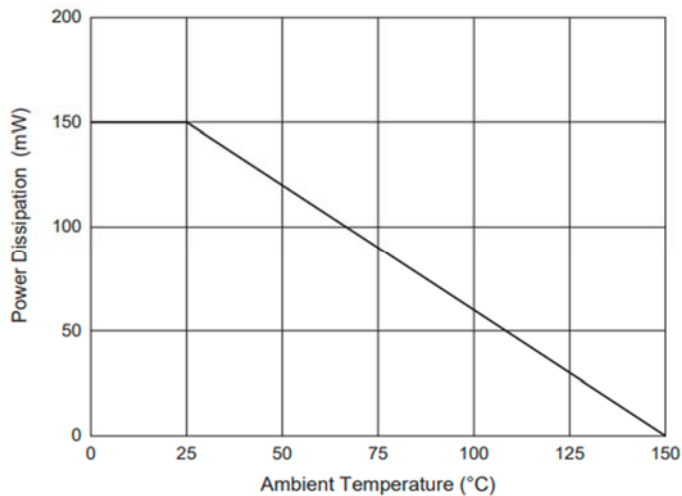


Fig 6: P_D - T_a Curve

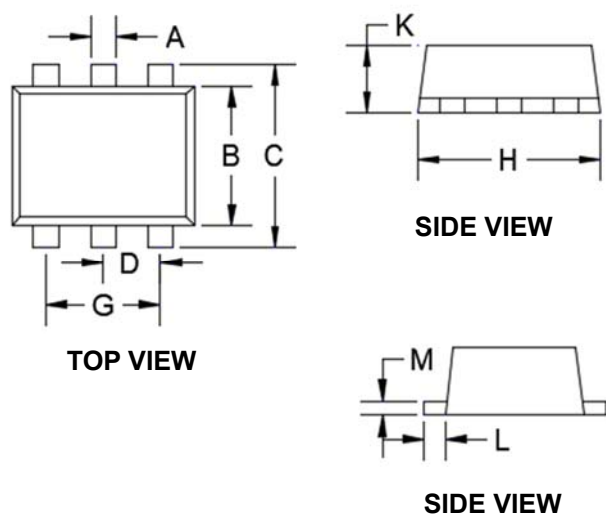


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■ Ordering Information

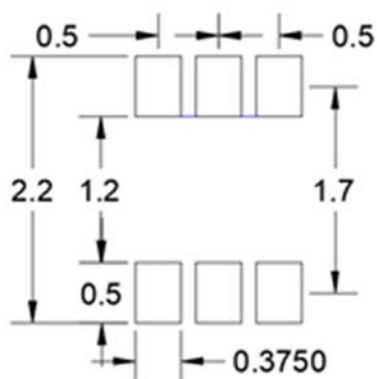
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
MMDT2907V	F2	Approximate 0.0035	3000	30000	120000	7" reel

■ Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.006	0.011	0.150	0.300
B	0.043	0.051	1.100	1.300
C	0.059	0.067	1.500	1.700
D	0.016	0.024	0.400	0.600
G	0.035	0.043	0.900	1.100
H	0.059	0.067	1.500	1.700
K	0.021	0.026	0.550	0.650
L	0.004	0.011	0.100	0.300
M	0.004	0.007	0.100	0.180

■ Suggested Pad Layout



UNIT: mm

MMDT2907V

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