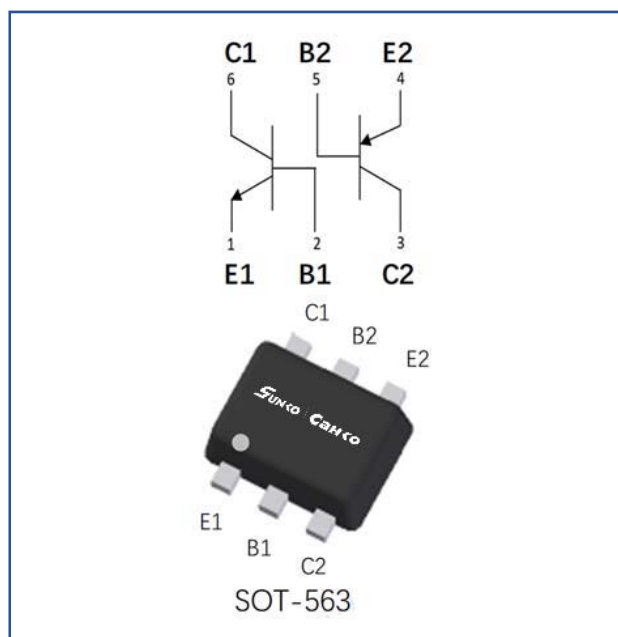


EMH4

Dual NPN Digital Transistors (Built-in Resistors)



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				H4
Collector-base voltage	V_{CBO}	V	$I_C=50\mu\text{A}$	50
Collector-emitter voltage	V_{CEO}	V	$I_C=1\text{mA}$	50
Emitter-base voltage	V_{EBO}	V	$I_E=50\mu\text{A}$	5
Collector current	I_C	mA		100
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 =50uA	50		
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =1mA	50		
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =50uA	5		
Collector cut-off current	I _{CBO}	uA	V _{CB} =50V			0.5
Emitter-base cutoff current	I _{EBO}	uA	V _{EB} =4V			0.5
DC current gain	h _{FE}		V _{CE} =5V, I _C =1mA	100		600
Input resistance	R ₁	kΩ		7	10	13
Collector-emitter saturation voltage	V _{CE(sat)}	V	I _C =10mA, I _B =1mA			0.3
Transition frequency	f _T	MHz	V _{CE} =10V, I _E =5mA, f=100MHz		250	

■ 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	667

Note:

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

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■ Characteristics

Fig 1: Static Characteristics

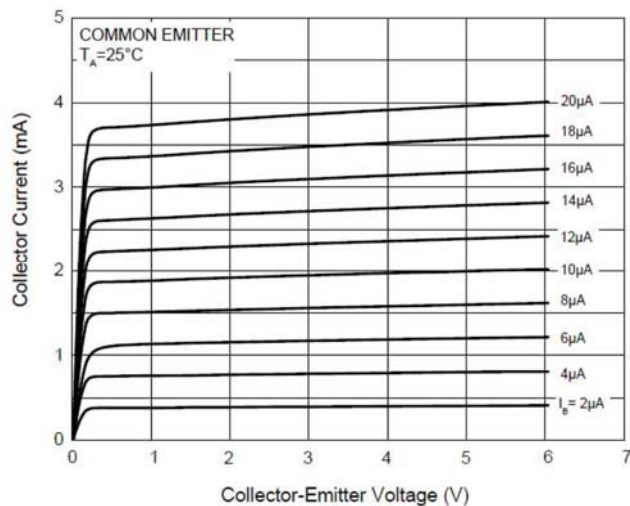


Fig 2: DC Current Gain Characteristics

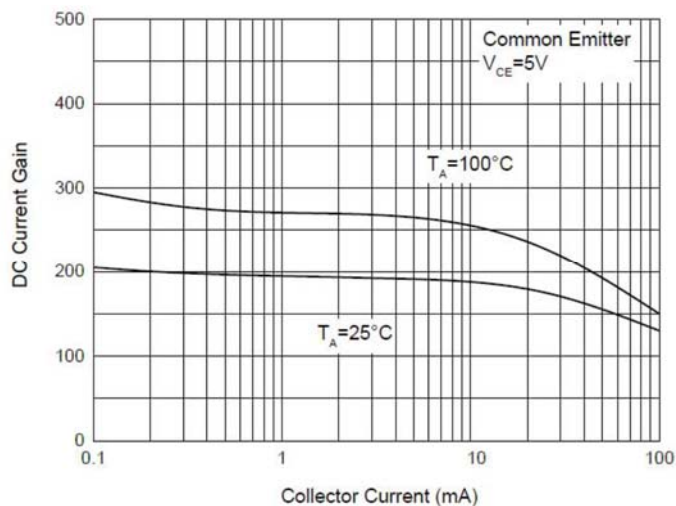


Fig 3: Collector-Emitter Saturation Voltage

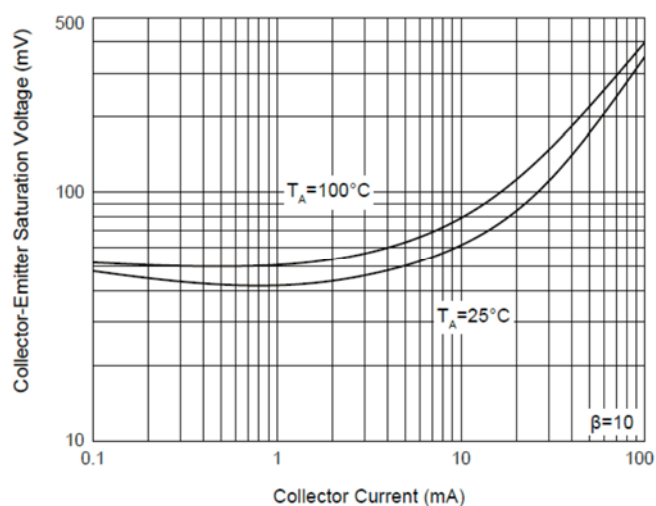


Fig 4: Base-Emitter Saturation Voltage

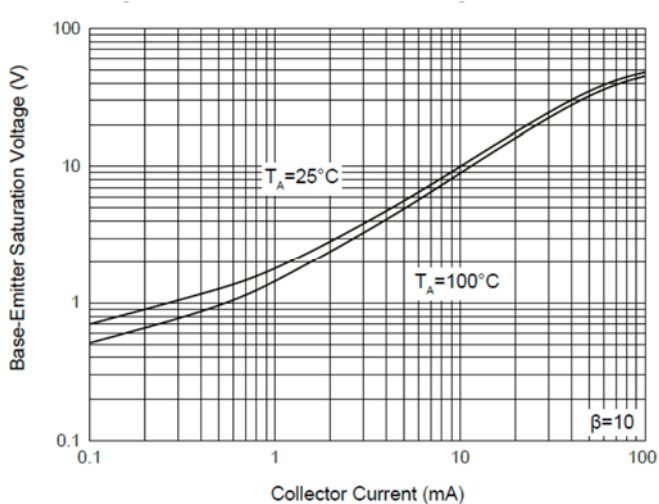
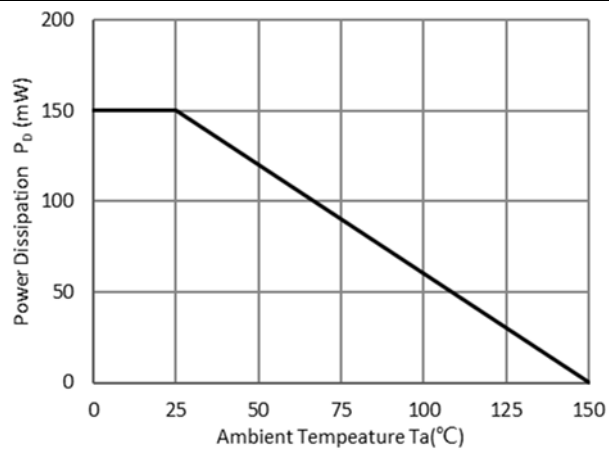


Fig 5: P_D - T_A Curve

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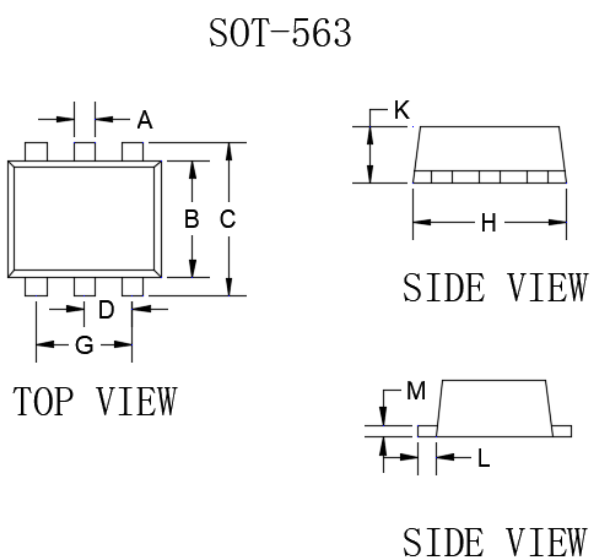


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■ Ordering Information

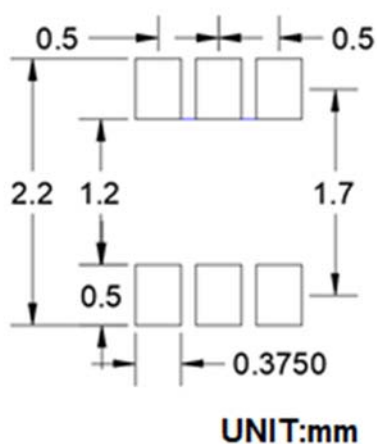
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
EMH4	F2	Approximate 0.0035	3000	30000	120000	7" reel

■ Outline Dimensions



DIM	DIMENSIONS			
	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



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