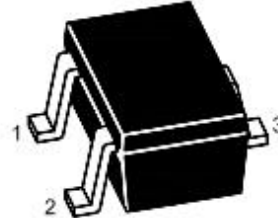


NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications



FEATURES

- Complementary to MMBT2907AW
- Small Package

MARKING:K3P/1P

1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^{\circ}\text{C}$)

Parameter		Symbol	Value	Unit
Collector Base Voltage	MMBT2222W	V_{CBO}	60	V
	MMBT2222AW		75	
Collector Emitter Voltage	MMBT2222W	V_{CEO}	30	V
	MMBT2222AW		40	
Emitter Base Voltage	MMBT2222W	V_{EBO}	5	V
	MMBT2222AW		6	
Collector Current		I_C	600	mA
Power Dissipation		P_{tot}	150	mW
Junction Temperature		T_j	150	$^{\circ}\text{C}$
Storage Temperature Range		T_{stg}	- 55 to + 150	$^{\circ}\text{C}$

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at V _{CE} = 10 V, I _C = 0.1 mA at V _{CE} = 10 V, I _C = 1 mA at V _{CE} = 10 V, I _C = 10 mA at V _{CE} = 1 V, I _C = 150 mA at V _{CE} = 10 V, I _C = 150 mA at V _{CE} = 10 V, I _C = 500 mA	 h _{FE} h _{FE} h _{FE} h _{FE} h _{FE} h _{FE} h _{FE} h _{FE} MMBT2222W MMBT2222AW	 35 50 75 50 100 30 40	 - - - - 300 - -	 - - - - - - - -
Collector Base Cutoff Current at V _{CB} = 50 V at V _{CB} = 60 V	 MMBT2222W MMBT2222AW	 I _{CBO} -	 - 100 100	 nA
Emitter Base Cutoff Current at V _{EB} = 3 V		I _{EBO}	- 100	nA
Collector Base Breakdown Voltage at I _C = 10 μA	 MMBT2222W MMBT2222AW	 V _{(BR)CBO} -	 60 75 -	 V
Collector Emitter Breakdown Voltage at I _C = 10 mA	 MMBT2222W MMBT2222AW	 V _{(BR)CEO} -	 30 40 -	 V
Emitter Base Breakdown Voltage at I _E = 10 μA	 MMBT2222W MMBT2222AW	 V _{(BR)EBO} -	 5 6 -	 V
Collector Emitter Saturation Voltage at I _C = 150 mA, I _B = 15 mA at I _C = 500 mA, I _B = 50 mA	 MMBT2222W MMBT2222AW MMBT2222W MMBT2222AW	 V _{CE(sat)} -	 - 0.4 0.3 1.6 1	 V
Base Emitter Saturation Voltage at I _C = 150 mA, I _B = 15 mA at I _C = 500 mA, I _B = 50 mA	 MMBT2222W MMBT2222AW MMBT2222W MMBT2222AW	 V _{BE(sat)} -	 - 0.6 1.3 1.2 2.6 2	 V
Transition Frequency at V _{CE} = 20 V, -I _E = 20 mA, f = 100 MHz		f _T	300	MHz
Collector Output Capacitance at V _{CB} = 10 V, f = 100 KHz		C _{ob}	- 8	pF
Delay Time at V _{CC} = 30 V, V _{BE(OFF)} = 0.5 V, I _C = 150 mA, I _{B1} = 15 mA		t _d	- 10	ns
Rise Time at V _{CC} = 30 V, V _{BE(OFF)} = 0.5 V, I _C = 150 mA, I _{B1} = 15 mA		t _r	- 25	ns
Storage Time at V _{CC} = 30 V, I _C = 150 mA, I _{B1} = -I _{B2} = 15 mA		t _{stg}	- 225	ns
Fall Time at V _{CC} = 30 V, I _C = 150 mA, I _{B1} = -I _{B2} = 15 mA		t _f	- 60	ns

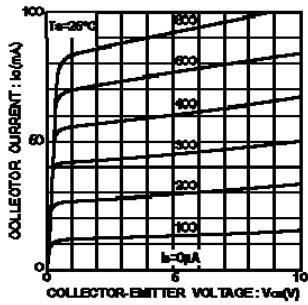


Fig.1 Grounded emitter output characteristics

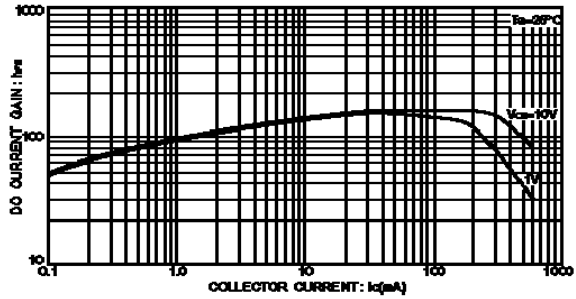


Fig.3 DC current gain vs. collector current (I)

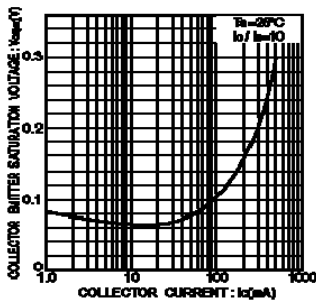


Fig.2 Collector-emitter saturation voltage vs. collector current

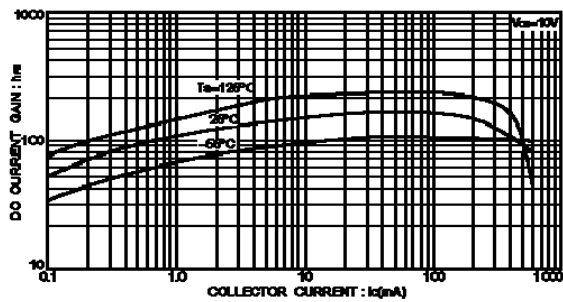


Fig.4 DC current gain vs. collector current(II)

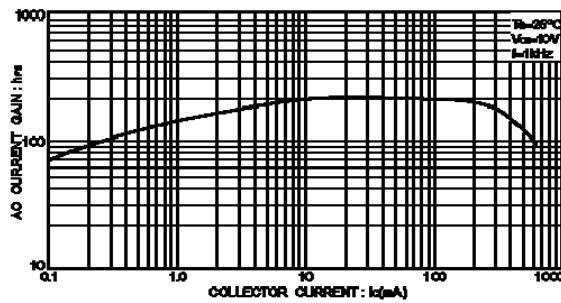


Fig.5 AC current gain vs. collector current

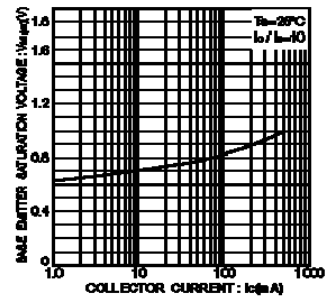
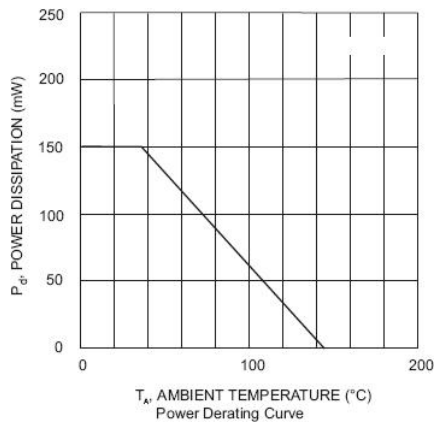


Fig.6 Base-emitter saturation voltage vs. collector current



SOT-323 Package Outline Dimensions

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