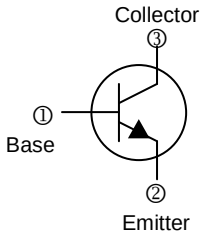
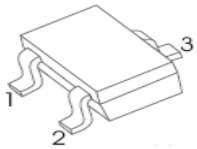
迈拓电子
MAITUO ELECTRONIC

MMBT5551W NPN Silicon Plastic-Encapsulate Transistor



FEATURE

Ideal for Medium Power Amplification and Switching
Also Available in Lead Free Version
Complementary to MMBT5401W



MARKING: K4N

SOT-323

MAXIMUM RATINGS (T_A = 25℃ unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector to Base Voltage	V_{CBO}	180	V
Collector to Emitter Voltage	V_{CEO}	160	V
Emitter to Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	200	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	625	℃/W
Opterating & Storage Temperature	T_j, T_{STG}	150, -55 ~ 150	℃

ELECTRICAL CHARACTERISTICS (T_A = 25℃ unless otherwise specified)

CHARACTERISTIC	SYMBOL	MIN	MAX	UNIT	TEST CONDITION
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	180		V	I_C=100μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	160		V	I_C = 1mA, I_B = 0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6		V	I_E=10μA, I_C=0
Collector Cutoff Current	I_{CBO}		50	nA	V_{CB}=120V, I_E=0
Emitter Cutoff Current	I_{EBO}		50	nA	V_{EB}=4V, I_C=0
DC Current Gain	h_{FE1} h_{FE2} h_{FE3}	80 80 30	 250 		V_{CE}=5V, I_C=1mA V_{CE}=5V, I_C=10mA V_{CE}=5V, I_C=50mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$ $V_{CE(sat)}$		0.15 0.2	V V	I_C=10mA, I_B=1mA I_C=50mA, I_B=5mA
Base-Emitter Voltage	$V_{BE(sat)}$ $V_{BE(sat)}$		1 1	V V	I_C=10mA, I_B=1mA I_C=50mA, I_B=5mA
Transition Frequency	f_T	100	300	MHz	V_{CE}=10V, I_C=10mA, f=100MHz
Collector Output Capacitance	C_{ob}		6	pF	V_{CB}=10V, I_E=0, f=1MHz
Noise Figure	NF		8	dB	V_{CE}=5V, I_C=0.2mA, f=1KHz, R_S=1KΩ

CHARACTERISTIC CURVES

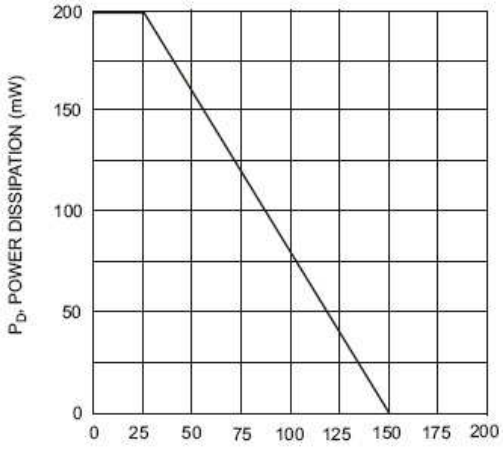


Fig. 1, Max Power Dissipation vs Ambient Temperature

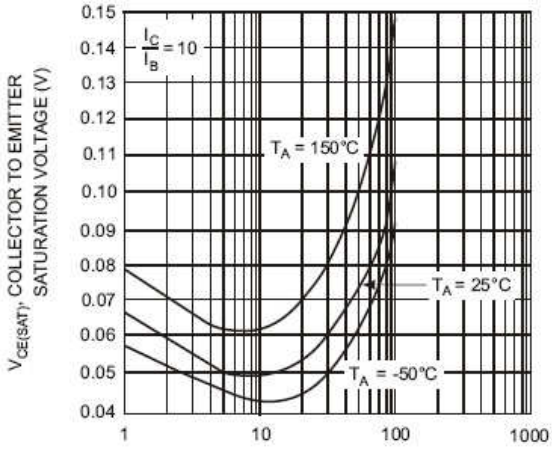


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

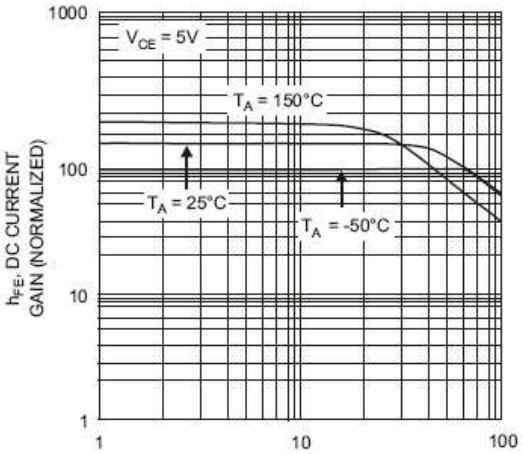


Fig. 3, DC Current Gain vs Collector Current

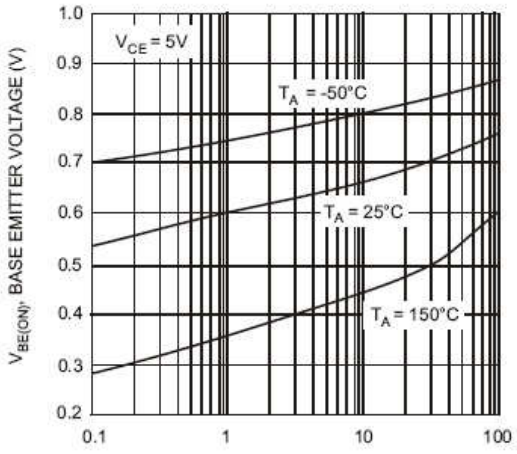


Fig. 4, Base Emitter Voltage vs. Collector Current

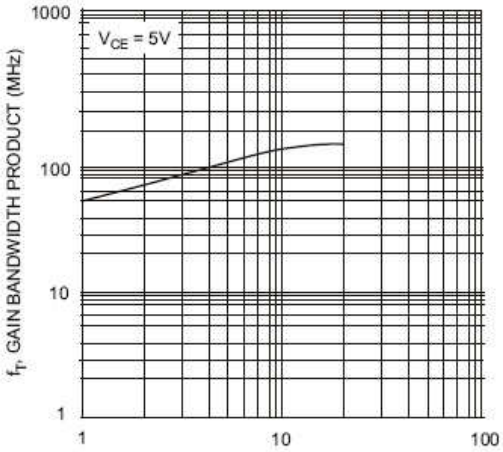


Fig. 5, Gain Bandwidth Product vs. Collector Current

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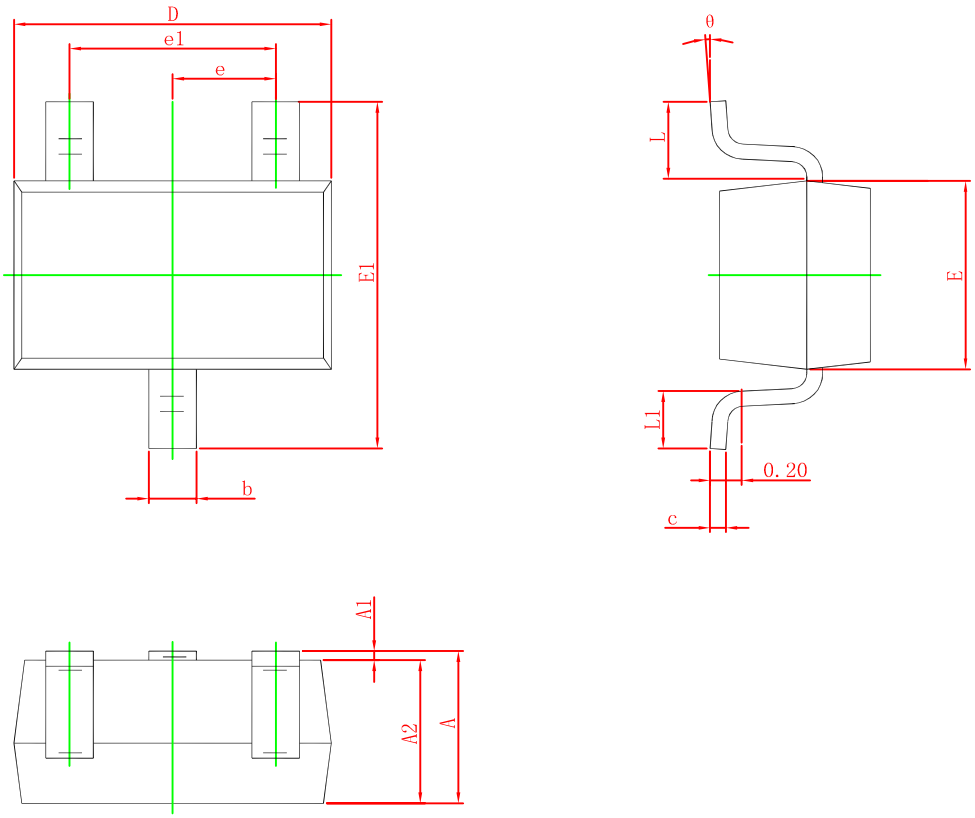
SOT-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°