优尚

YOUSHANG SEMICONDUCTOR

设计研发新型功率器件

各类小信号开关

中低压及高压大电流等场效应管

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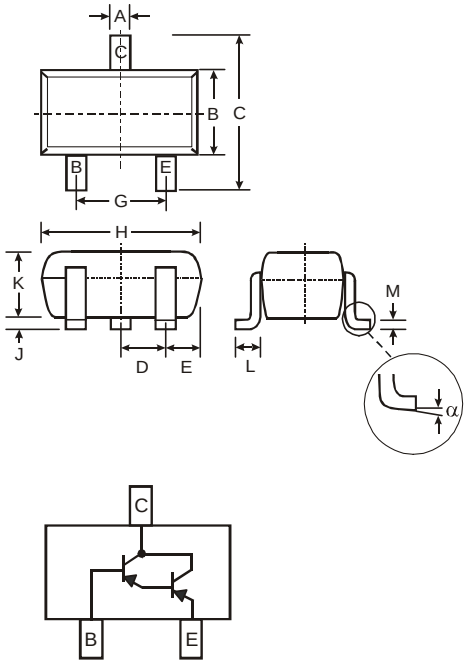
Features

- Epitaxial Planar Die Construction
- Complementary NPN Types Available (NK-MMSTA13/NK-MMSTA14)
- Ultra-Small Surface Mount Package
- Ideal for Medium Power Amplification and Switching
- High Current Gain



SOT-323		
Dim	**Min**	**Max**
A	0.25	0.40
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
E	0.30	0.40
G	1.20	1.40
H	1.80	2.20
J	0.0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.18
α	0°	8°
All Dimensions in mm		

Mechanical Data

- Case: SOT-323
- Case Material: Molded Plastic, "Green" Molding Compound, Note 4. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections: See Diagram
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- NK-MMSTA63 Marking K2E, K3E, See Page 3
- NK-MMSTA64 Marking K3E, See Page 3
- Ordering & Date Code Information: See Page 3
- Weight: 0.006 grams (approximate)

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-30	V
Emitter-Base Voltage	V_{EBO}	-10	V
Collector Current - Continuous	I_C	-500	mA
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	°C

@T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 5)					
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-30	—	V	I_C = -100μA V_{BE} = 0V
Collector Cutoff Current	I_{CBO}	—	-100	nA	V_{CB} = -30V, I_E = 0
Emitter Cutoff Current	I_{EBO}	—	-100	nA	V_{EB} = -10V, I_C = 0
ON CHARACTERISTICS (Note 5)					
DC Current Gain NK-MMSTA63	h_{FE}	5,000	—	—	I_C = -10mA, V_{CE} = -5.0V
NK-MMSTA64		10,000			I_C = -10mA, V_{CE} = -5.0V
NK-MMSTA63		10,000			I_C = -100mA, V_{CE} = -5.0V
NK-MMSTA64		20,000			I_C = -100mA, V_{CE} = -5.0V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	-1.5	V	I_C = -100mA, I_B = -100μA
Base- Emitter Saturation Voltage	$V_{BE(SAT)}$	—	-2.0	V	I_C = -100mA, V_{CE} = -5.0V
SMALL SIGNAL CHARACTERISTICS					
Current Gain-Bandwidth Product	f_T	125	—	MHz	V_{CE} = -5.0V, I_C = -10mA, f = 100MHz

Notes: 5. Short duration pulse test used to minimize self-heating effect.

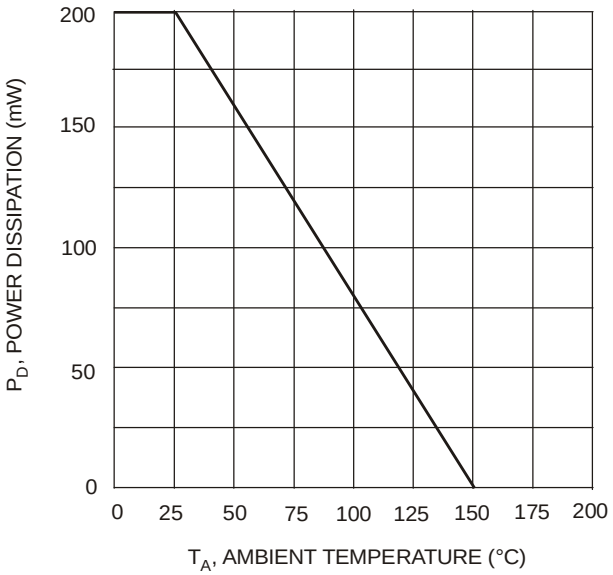


Fig. 1, Max Power Dissipation vs. Ambient Temperature

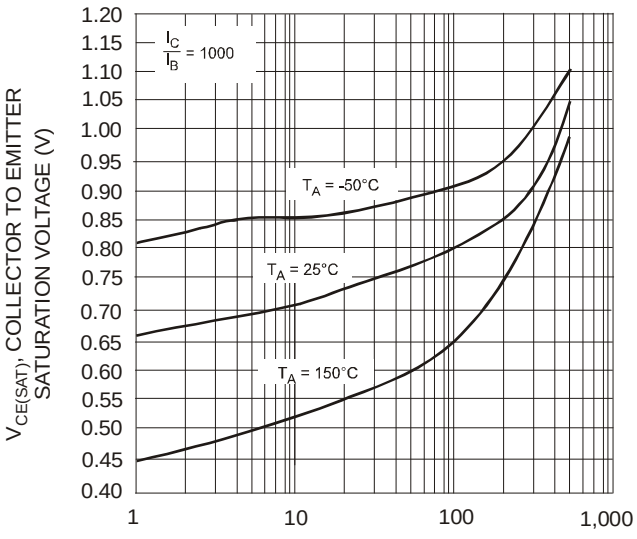


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

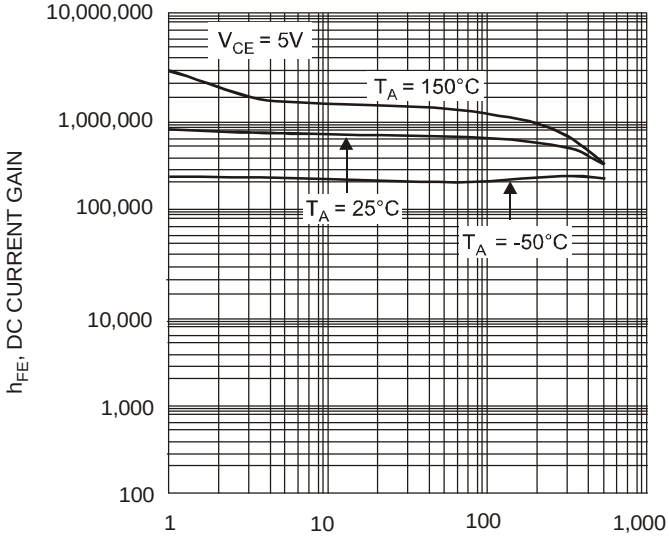


Fig. 3, DC Current Gain vs. Collector Current

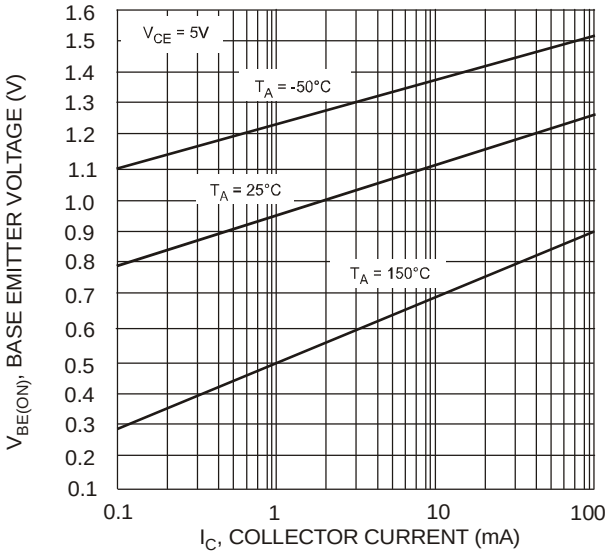


Fig. 4, Base Emitter Voltage vs. Collector Current

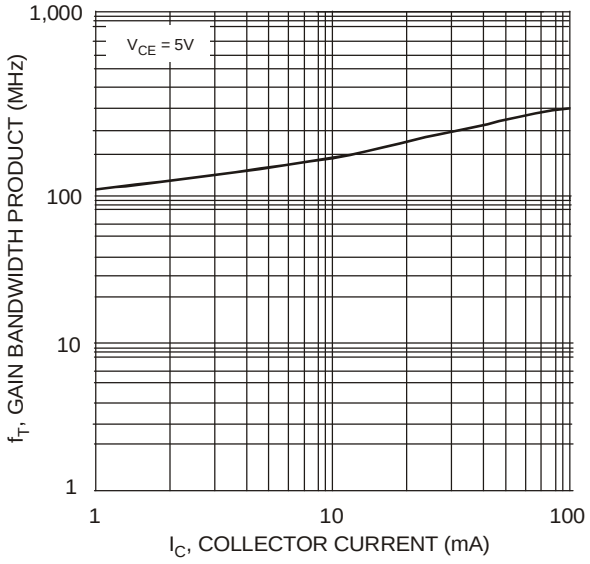


Fig. 5, Gain Bandwidth Product vs. Collector Current