



MMST4126

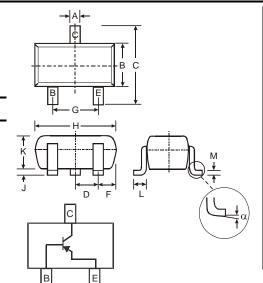
PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

Features

- **Epitaxial Planar Die Construction**
- Complementary NPN Type Available (MMST4124)
- Ideal for Medium Power Amplification and Switching
- Ultra-Small Surface Mount Package
- Lead Free/RoHS Compliant (Note 2)
- "Green" Device (Notes 3 and 4)

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).
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.006 grams (approximate)



SOT-323								
Dim	Min	Max						
Α	0.25	0.40						
В	1.15	1.35						
C	C 2.00 2.20							
D	0.65 N	0.65 Nominal						
Е	0.30	0.40						
G	1.20	1.40						
Н	1.80	2.20						
J	0.0	0.10						
K	0.90	1.00						
L	0.25	0.40						
М	0.10	0.18						
α	0°	8°						
All Dimensions in mm								

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-25	V
Collector-Emitter Voltage	V _{CEO}	-25	V
Emitter-Base Voltage	V _{EBO}	-4.0	V
Collector Current - Continuous (Note 1)	Ic	-200	mA
Power Dissipation (Note 1)	P _d	200	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{ heta JA}$	625	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-55 to +150	°C

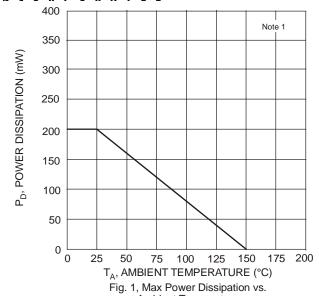
Electrical Characteristics @T_A = 25°C unless otherwise specified

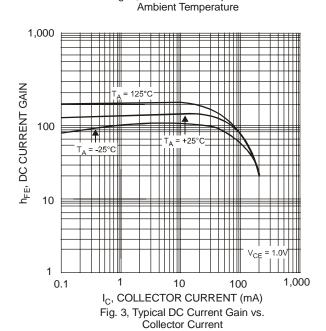
Characteristic Symbol Min May Unit Toot Condition									
Characteristic	Symbol	Min	Max	Unit	Test Condition				
OFF CHARACTERISTICS (Note 5)				•					
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-25	_	V	$I_C = -10\mu A, I_E = 0$				
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-25	_	V	$I_C = -1.0 \text{mA}, I_B = 0$				
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-4.0		V	$I_E = -10\mu A$, $I_C = 0$				
Collector Cutoff Current	I _{CBO}	_	-50	nA	$V_{CB} = -20V, I_{E} = 0V$				
Emitter Cutoff Current	I _{EBO}		-50	nA	$V_{EB} = -3.0V, I_{C} = 0V$				
ON CHARACTERISTICS (Note 5)									
DC Current Gain	h _{FE}	120 60	360		$I_C = -2.0 \text{mA}, V_{CE} = -1.0 \text{V}$				
DC Current Gain			_		$I_C = -50 \text{mA}, V_{CE} = -1.0 \text{V}$				
Collector-Emitter Saturation Voltage	V _{CE(SAT)}		-0.40	V	$I_C = -50 \text{mA}, I_B = -5.0 \text{mA}$				
Base-Emitter Saturation Voltage	V _{BE(SAT)}		-0.95	V	$I_C = -50 \text{mA}, I_B = -5.0 \text{mA}$				
SMALL SIGNAL CHARACTERISTICS									
Output Capacitance	C_obo		4.5	pF	$V_{CB} = -5.0V$, $f = 1.0MHz$, $I_E = 0$				
Input Capacitance	C _{ibo}		10	pF	$V_{EB} = -0.5V$, $f = 1.0MHz$, $I_{C} = 0$				
Small Signal Current Gain	h _{fe}	120	480		$V_{CE} = 1.0V, I_{C} = -2.0mA, f = 1.0kHz$				
Current Gain-Bandwidth Product	f⊤	250	_	MHz	V _{CE} = -20V, I _C = -10mA, f = 100MHz				
Noise Figure	NE		4.0	dB	$V_{CE} = -5.0V$, $I_C = -100\mu A$,				
Noise Figure	NF		4.0	ū	$R_S = 1.0k\Omega$, $f = 1.0kHz$				

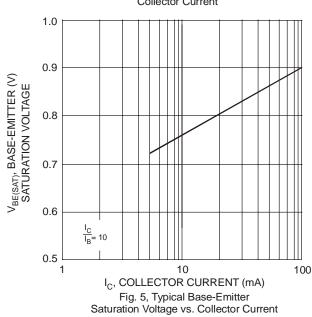
Note:

- 1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- 2. No purposefully added lead.
- 3. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
- Product manufactured with Date Code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to Date Code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.
- 5. Short duration pulse test used to minimize self-heating effect.

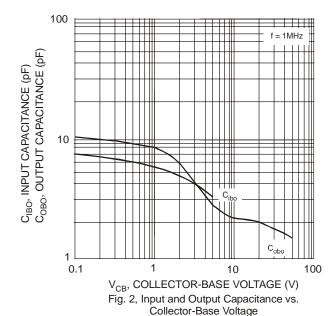








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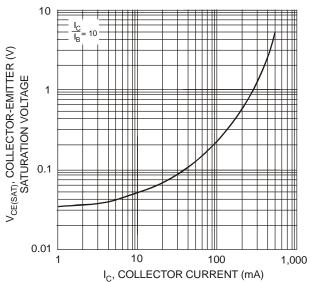


Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

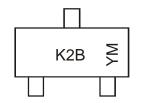


Ordering Information (Notes 4 and 6)

Device	Packaging	Shipping			
MMST4126-7-F	SOT-323	3000/Tape & Reel			

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



K2B = Product Type Marking Code YM = Date Code Marking Y = Year ex: N = 2002

M = Month ex: 9 = September

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	J	K	L	М	N	Р	R	S	Т	U	V	W	Χ	Υ	Z
Month	Jan	Fe	b I	Mar	Apr	May	Ju	n	Jul	Aug	Sep	Oc	t I	Nov	Dec
Code	4	2		2	4	5	6		7	0	٥	0		Ν	D

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