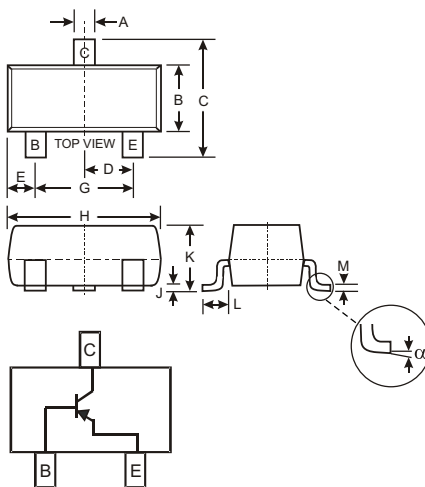


Features

- Epitaxial Planar Die Construction
- Complementary NPN Type Available (MMBTA42)
- Ideal for Medium Power Amplification and Switching
- Lead Free/RoHS Compliant (Note 4)**
- Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. 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 (See Page 2): K3R
- Ordering & Date Code Information: See Page 2
- Weight: 0.008 grams (approximate)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
	0	8
All Dimensions in mm		

Maximum Ratings @ T_A = 25 °C unless otherwise specified

Characteristic	Symbol	MMBTA92	Unit
Collector-Base Voltage	V _{CB0}	-300	V
Collector-Emitter Voltage	V _{CEO}	-300	V
Emitter-Base Voltage	V _{EBO}	-5.0	V
Collector Current (Note 1) (Note 3)	I _C	-500	mA
Power Dissipation (Note 1)	P _d	300	mW
Thermal Resistance, Junction to Ambient (Note 1)	R _{JA}	417	C/W
Operating and Storage and Temperature Range	T _J , T _{STG}	-55 to +150	C

Electrical Characteristics @ T_A = 25 °C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)					
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-300		V	I _C = -100 A, I _E = 0
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-300		V	I _C = -1.0mA, I _B = 0
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-5.0		V	I _E = -100 A, I _C = 0
Collector Cutoff Current	I _{CBO}		-250	nA	V _{CB} = -200V, I _E = 0
Collector Cutoff Current	I _{EBO}		-100	nA	V _{CE} = -3.0V, I _C = 0
ON CHARACTERISTICS (Note 2)					
DC Current Gain	h _{FE}	25 40 25			I _C = -1.0mA, V _{CE} = -10V I _C = -10mA, V _{CE} = -10V I _C = -30mA, V _{CE} = -10V
Collector-Emitter Saturation Voltage	V _{CE(SAT)}		-0.5	V	I _C = -20mA, I _B = -2.0mA
Base- Emitter Saturation Voltage	V _{BE(SAT)}		-0.9	V	I _C = -20mA, I _B = -2.0mA
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C _{cb}		6.0	pF	V _{CB} = -20V, f = 1.0MHz, I _E = 0
Current Gain-Bandwidth Product	f _T	50		MHz	V _{CE} = -20V, I _C = -10mA, f = 100MHz

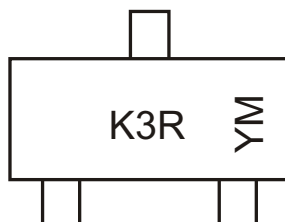
- Notes:
- Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 - Short duration test pulse used to minimize self-heating effect.
 - When operated under collector-emitter saturation conditions within the safe operating area defined by the thermal resistance rating (R_{JA}), power dissipation rating (P_d) and power derating curve (figure 1).
 - No purposefully added lead.

Ordering Information (Note 5)

Device	Packaging	Shipping
MMBTA92-7-F	SOT-23	3000/Tape & Reel

Notes: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



K3R = Product Type Marking Code

YM = Date Code Marking

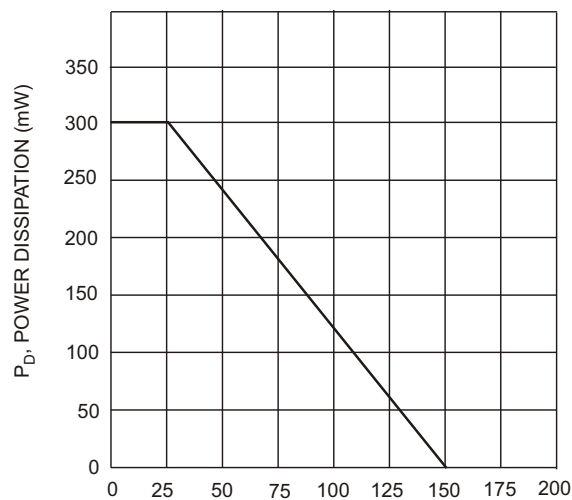
Y = Year ex: N = 2002

M = Month ex: 9 = September

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	J	K	L	M	N	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D



T_A, AMBIENT TEMPERATURE (°C)

Fig. 1, Max Power Dissipation vs. Ambient Temperature

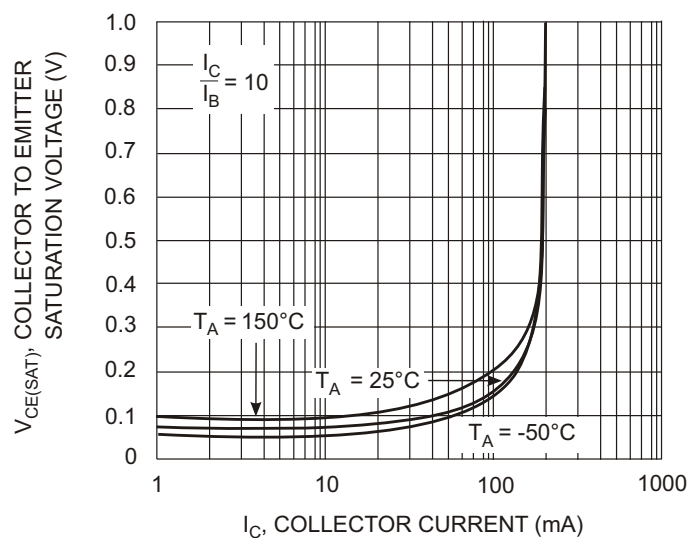
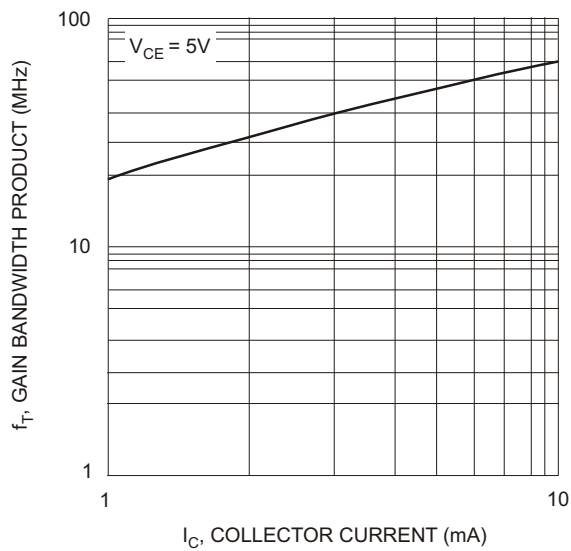
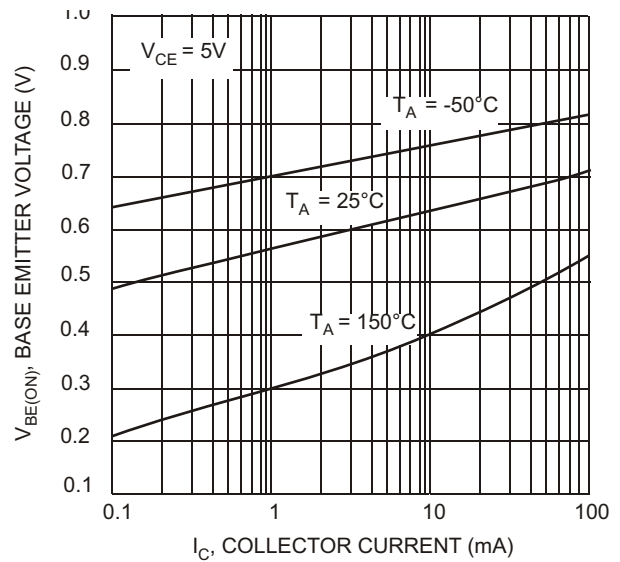
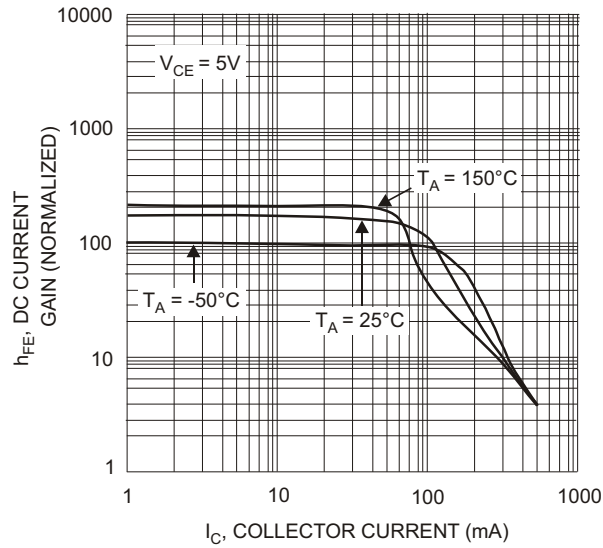


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current



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