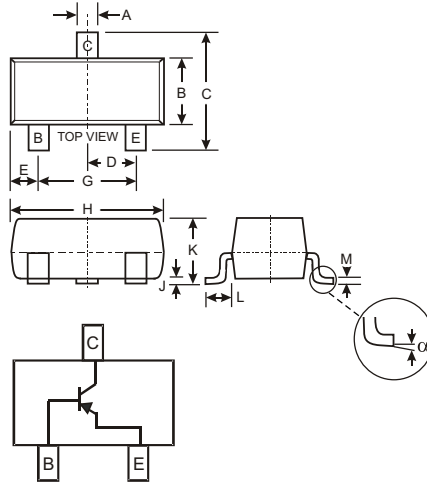


Features

- 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)CB0}	-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 _{CB0}		-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

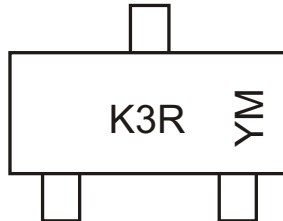
- Notes:
- Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 - Short duration test pulse used to minimize self-heating effect.
 - 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

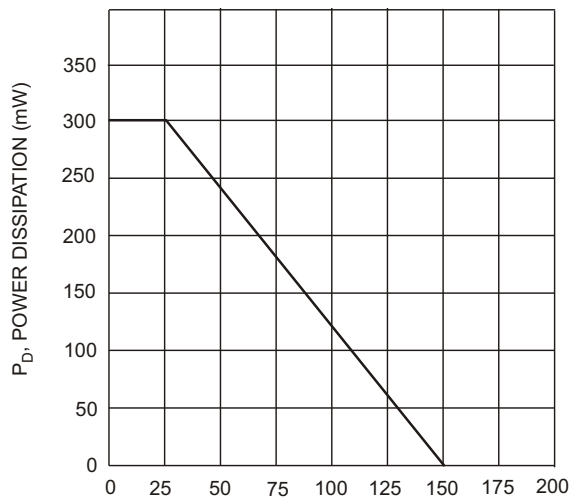


K3R = Product Type Marking Code
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

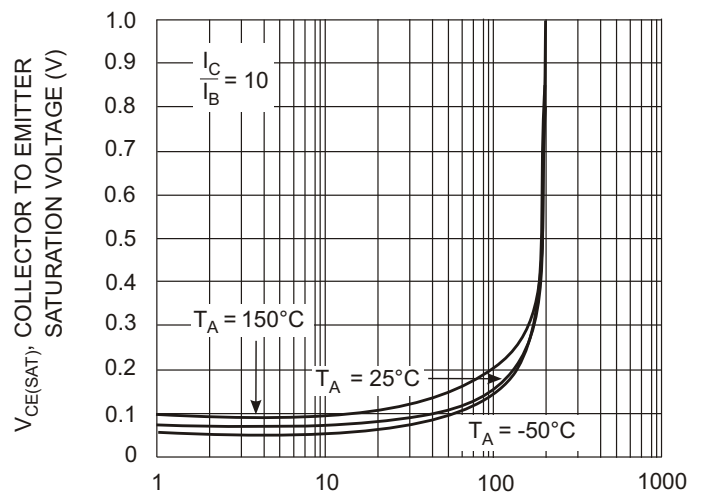
Date Code Key

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



I_C, COLLECTOR CURRENT (mA)
 Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

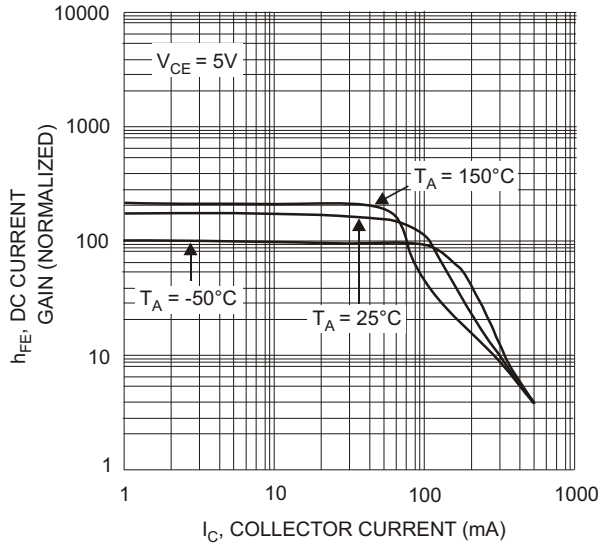


Fig. 3, DC Current Gain vs Collector Current

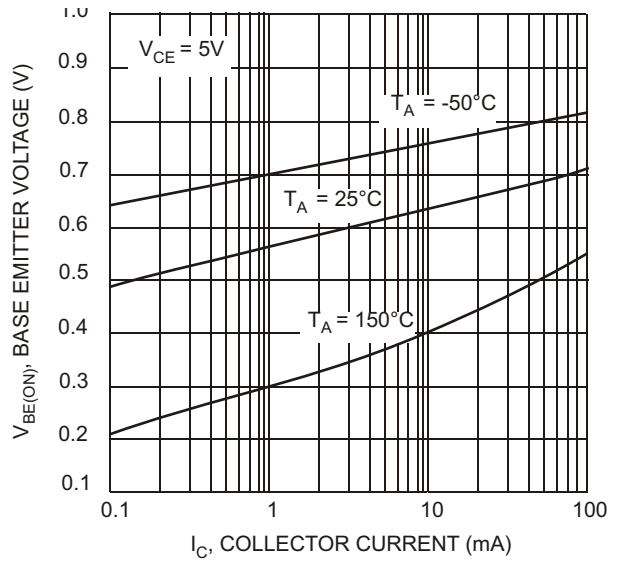


Fig. 4, Base Emitter Voltage vs Collector Current

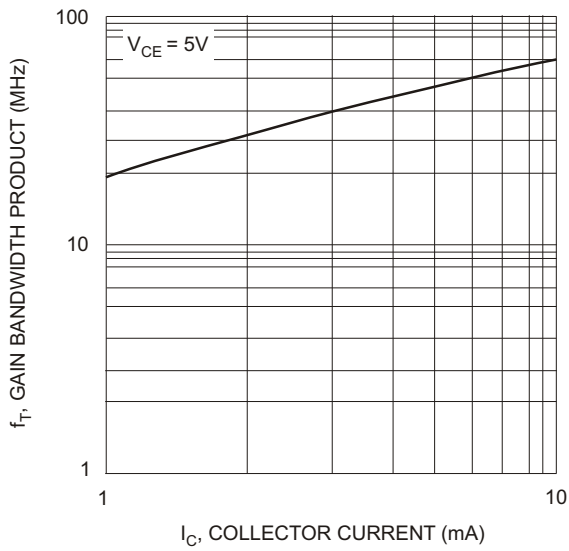


Fig. 5, Gain Bandwidth Product vs Collector Current

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