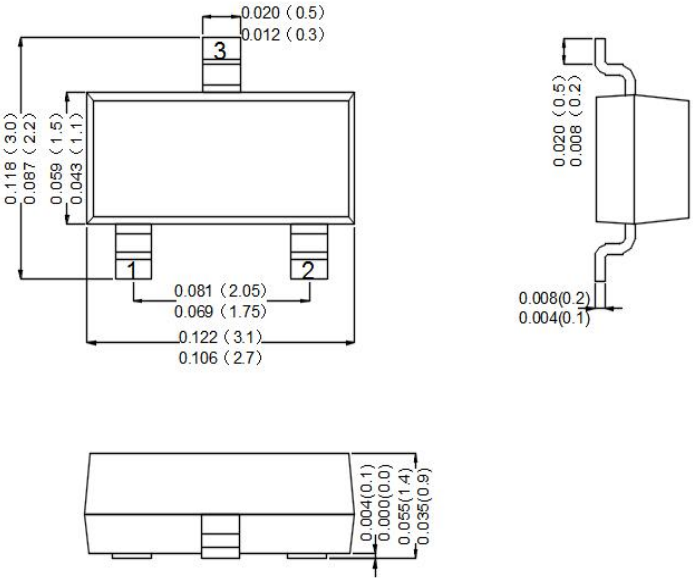
MMBT491A

NPN Silicon Epitaxial Planar Transistor

Features

SOT-23



Dimensions in inches and (millimeters)

Mechanical Data

- Case:Molded Plastic,SOT-23
- Epoxy:UL 94V-0 rate flame retardant
- Terminals:Plated Leads Solderable perMIL-STD-750,Method-2026.
- Marking: 491A
- Mounting Position : Any.
- Equivalent Circuit:

Maximum Ratings Maximum Ratings (Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	40	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	A
Peak Pulse Current	I_{CM}	2	A
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_S	- 55 to + 1 0	°C

Electrical Characteristics (Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 1 mA at V_{CE} = 5 V, I_C = 500 mA at V_{CE} = 5 V, I_C = 1 A	 h_{FE} h_{FE} h_{FE}	 300 300 200	 - 900 -	 - - -
Collector Base Cutoff Current at V_{CB} = 30 V	I_{CBO}	-	100	nA
Collector Emitter Cutoff Current at V_{CE} = 30 V	I_{CES}	-	100	nA
Emitter Base Cutoff Current at V_{EB} = 4 V	I_{EBO}	-	100	nA
Collector Emitter Saturation Voltage at I_C = 500 mA, I_B = 50 mA at I_C = 1 A, I_B = 100 mA	V_{CEsat}	 -	 0.3 0.5	V
Base Emitter Saturation Voltage at I_C = 1 A, I_B = 100 mA	V_{BEsat}	-	1.2	V
Base Emitter Voltage at I_C = 1 A, V_{CE} = 5 V	V_{BE}	-	1.1	V
Collector Output Capacitance at V_{CB} = 10 V, f = 1 MHz	C_{ob}	-	10	pF
Gain Bandwidth Product at V_{CE} = 10 V, I_C = 50 mA, f = 100 MHz	f_T	150	-	MHz

Rating And Characteristic Curves

Fig.1 IC - VBE(on)
at VCE= 5V, Ta= 25C

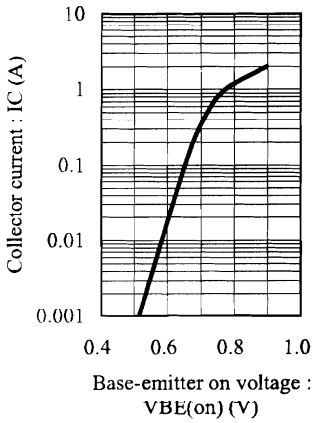


Fig.2 hFE - IC
at VCE= 5V, Ta= 25C

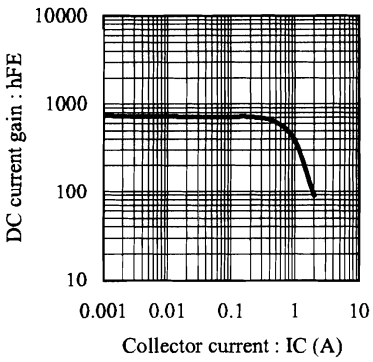


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

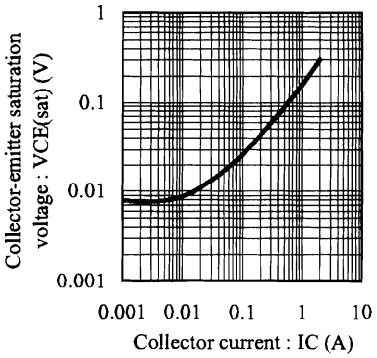


Fig.5 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

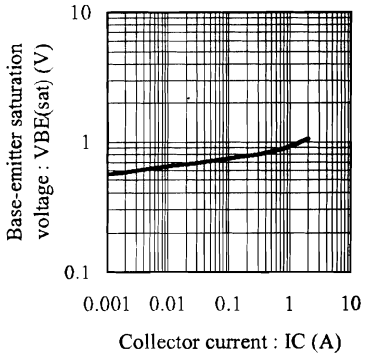


Fig.6 fT - IE
at VCE= 10V, Ta= 25C

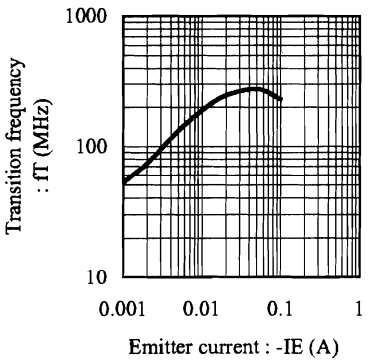


Fig.7 Cob - VCB
at f= 1MHz, Ta= 25C

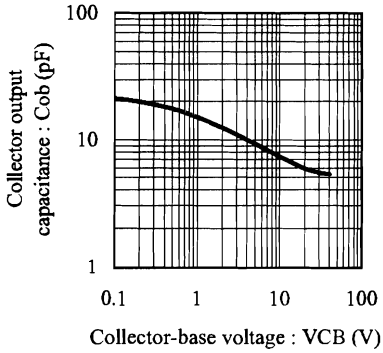
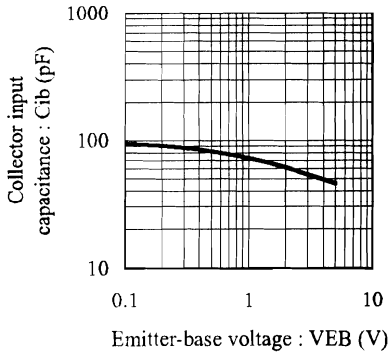


Fig.8 Cib - VEB
at f= 1MHz, Ta= 25C



Important Notice and Disclaimer

- Reproducing and modifying information of the document is prohibited without from XINNUO.
- XINNUO reserves the right to make changes to this document and its products and specifications.
- XINNUO disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- XINNUO does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the here in document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications.XINNUO makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown her are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify XINNUO for any damages resulting from such improper use or sale.
- Since XINNUO uses lot number as the tracking base, please provide the lot number for tracking when complaining.