BF 391 · BF 392 · BF 393

NPN HIGH VOLTAGE VIDEO AMPLIFIERS

MICRO ELECTRONICS

THE BF391, BF392, BF393 ARE NPN SILICON PLANAR TRANSISTORS DESIGNED FOR HIGH VOLTAGE VIDEO AMPLIFIERS IN TELEVISION RECEIVERS. THEY FEATURE 200V MINIMUM COLLECTOR-EMITTER BREAKDOWN VOLTAGE AND GOOD FREQUENCY CHARACTERISTICS.

CASE TO-92A

EBC

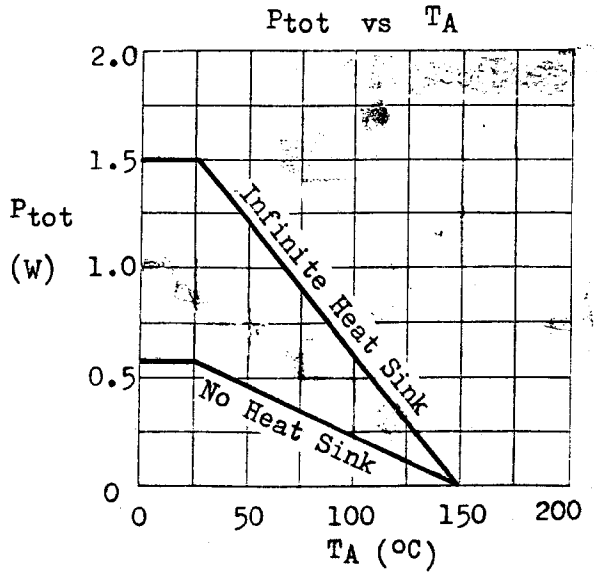
ABSOLUTE MAXIMUM RATINGS

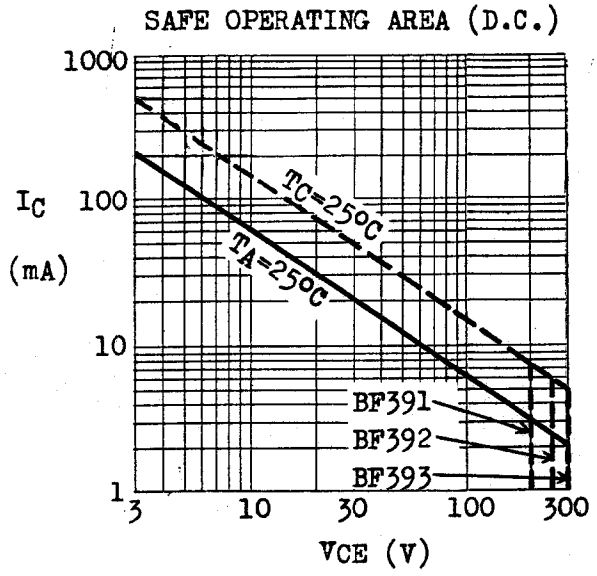
		BF391	BF392	BF393
Collector-Base Voltage	V_{CBO}	200V	250V	300V
Collector-Emitter Voltage	V_{CEO}	200V	250V	300V
Emitter-Base Voltage	V_{EBO}		6V	
Collector Current	I_{CM}		500mA	
Total Power Dissipation @ $T_C \leq 25^oC$	Ptot		1.5W	
@ $T_A \leq 25^oC$			625mW	
Operating Junction & Storage Temperature	T_j & T_{stg}		-55 to 150°C	

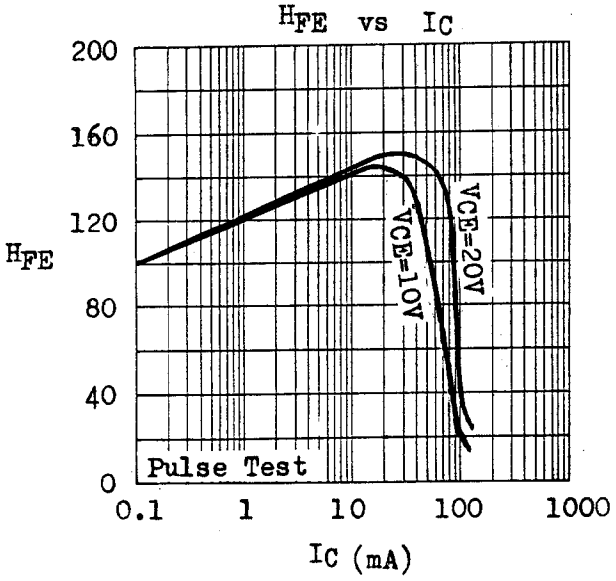
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

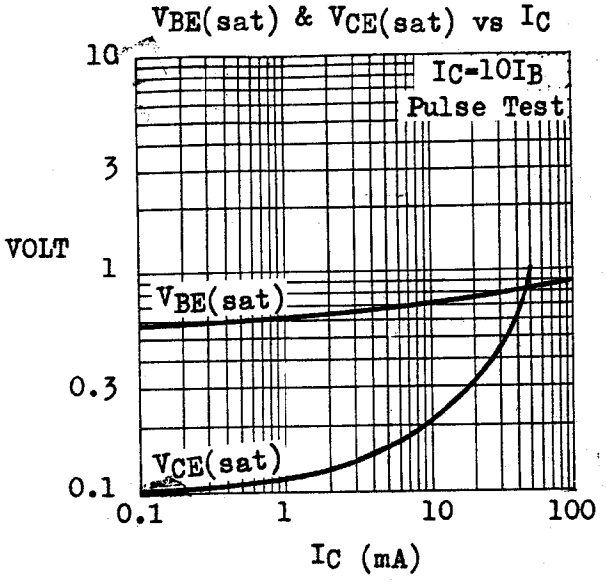
PARAMETER	SYMBOL	BF391 MIN	BF391 MAX	BF392 MIN	BF392 MAX	BF393 MIN	BF393 MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	BV_{CBO}	200		250		300		V	I_C=0.1mA I_E=0
Collector-Emitter Breakdown Voltage	LV_{CEO}	200		250		300		V	I_C=1mA I_B=0
Emitter-Base Breakdown Voltage	BV_{EBO}	6		6		6		V	I_E=0.1mA I_C=0
Collector Cutoff Current	I_{CBO}		0.1					µA	V_{CB}=160V I_E=0
					0.1		0.1	µA	V_{CB}=200V I_E=0
Emitter Cutoff Current	I_{EBO}		0.1					µA	V_{EB}=4V I_C=0
					0.1		0.1	µA	V_{EB}=6V I_C=0
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		2		2		2	V	I_C=20mA I_B=2mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		2		2		2	V	I_C=20mA I_B=2mA
D.C. Current Gain	H_{FE}	25		25		25			I_C=1mA V_{CE}=10V
		40		40		40			I_C=10mA V_{CE}=10V
Current Gain-Bandwidth Product	f_T	50		50		50		MHz	I_C=10mA V_{CE}=20V
Feedback Capacitance	Cre		2		2		2	pF	V_{CB}=60V I_E=0 f=1MHz

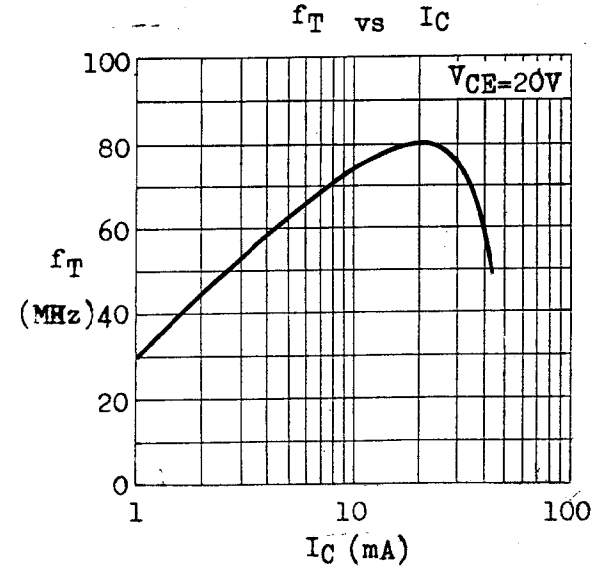
MICRO ELECTRONICS LTD. 38 HUNG TO ROAD, KWUN TONG, HONG KONG. TELEX 43510
KWUN TONG P. O. BOX 69477 CABLE ADDRESS "MICROTRON"
TELEPHONE:- 3-430181-6 ~~3-893363~~, ~~3-892423~~
FAX: 3-410321

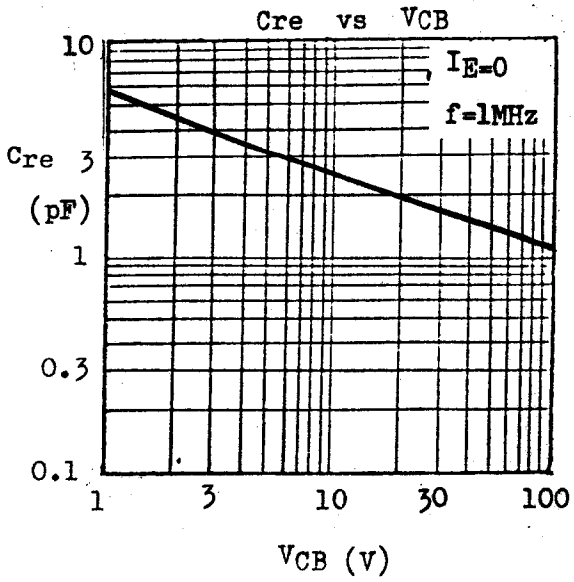

Ptot vs TA
Ptot
(W)
2.0
1.5
1.0
0.5
0
Infinite Heat Sink
No Heat Sink
0
50
100
150
200
TA (°C)


SAFE OPERATING AREA (D.C.)
IC
(mA)
1000
100
10
1
TC=25°C
TA=25°C
BF391
BF392
BF393
3
10
30
100
300
VCE (V)


HFE vs IC
HFE
200
160
120
80
40
0
VCE=20V
VCE=10V
Pulse Test
0.1
1
10
100
1000
IC (mA)


VBE(sat) & VCE(sat) vs IC
VOLT
10
3
1
0.3
0.1
IC=10IB
Pulse Test
VBE(sat)
VCE(sat)
0.1
1
10
100
IC (mA)


fT vs IC
fT
(MHz)
100
80
60
40
20
0
VCE=20V
1
10
100
IC (mA)


Cre vs VCB
Cre
(pF)
10
3
1
0.3
0.1
IE=0
f=1MHz
1
3
10
30
100
VCB (V)

12.77.7300B