NPN BU508DF

SILICON DIFFUSED POWER TRANSISTORS

The BU508DF is NPN transistors in a fully isolated SOT199 envelope (with integrated efficiency diode for the BU508DF).
They are a high voltage, high speed switching and they are intended for use in horizontal deflexion circuits of colour television receivers.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CEO}	Collector-Emitter Voltage	$I_B = 0$	700	V
V_{CESM}	Collector-Emitter Voltage	$V_{BE} = 0$	1500	V
I_C	Collector Current		8	A
I_{CM}	Collector Peak Current		15	A
I_B	Base Current		4	A
I_{Csat}	Collector Current saturation		4.5	A
I_{BM}	Base Peak Current		6	A
P_t	Total Power Dissipation	@ $T_C = 25°$	34	Watts
T_J	Junction Temperature		150	°C
T_{Stg}	Storage Temperature		-65 to +150	°C

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-mb}	Thermal Resistance, Junction to Mounting Base	1.0	K/W
R_{thJ-h}	Thermal Resistance, Junction to Hexternal Heatsink	3.7	K/W
R_{thJ-h}	Thermal Resistance, Junction to Hexternal Heatsink	2.8	K/W
R_{thJ-a}	Thermal Resistance, Junction to Ambient	35	K/W

ISOLATION

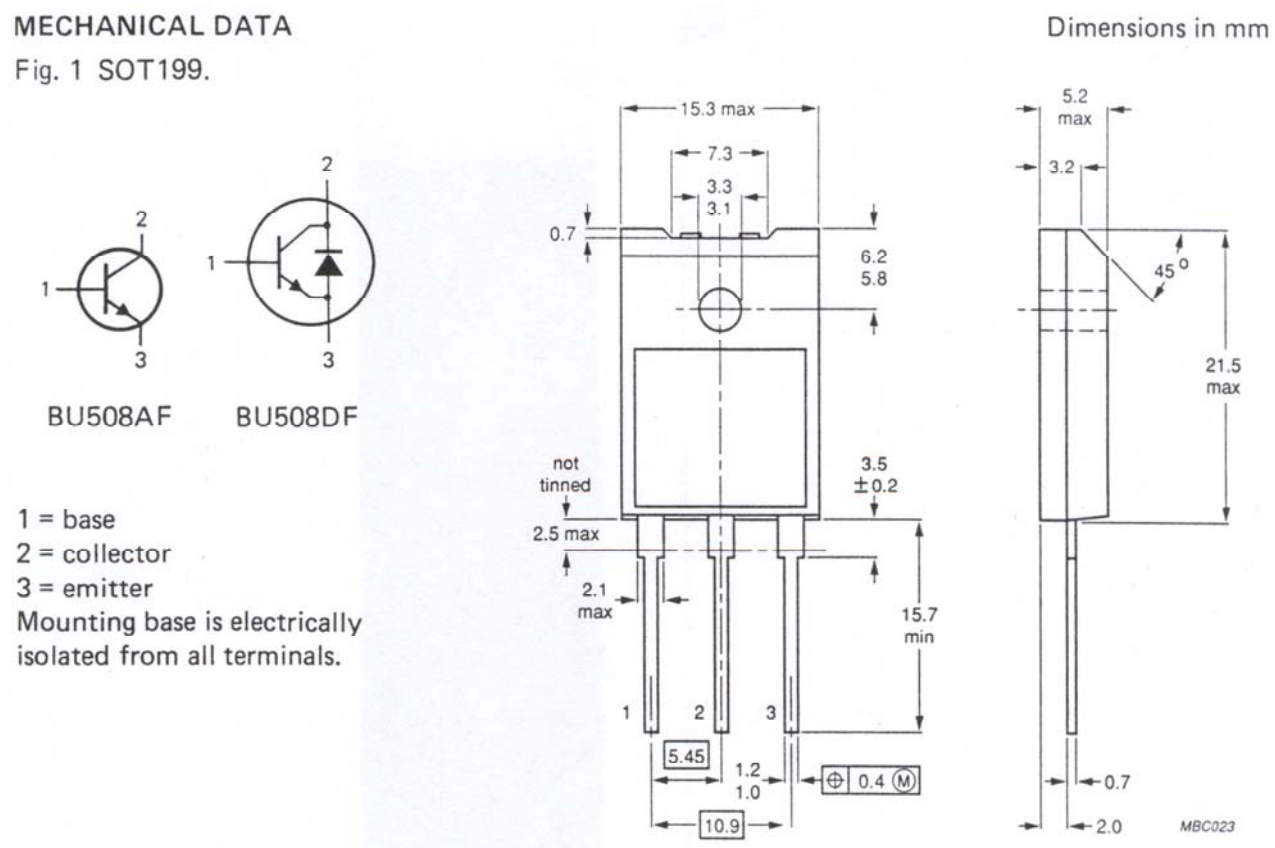
Symbol	Ratings		Value	Unit
V_{ISOL}	Isolation Voltage from all terminals to external heatsink (peak value)		1500	V
C_{ISOL}	Isolation capacitance from collector to external heatsink	Typ.	21	pF

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
I_{CES}	Collector Cutoff Current	V_{CE}= V_{CESM}= 1500 V , V_{BE}= 0	-	-	1	mA
		V_{CE}= V_{CESM}= 1500 V , V_{BE}= 0 ,T_j =125°C	-	-	2	
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	I_C=0.1A , I_B=0, L=25mH	700	-	-	V
I_{EBO}	Emitter Cutoff Current	V_{EB}=6.0 V, I_C=0	-	-	10	mA
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage	I_C=4.5A , I_B=2 A	-	-	1.0	V
$V_{BE(SAT)}$	Base-Emitter saturation Voltage	I_C=4.5 A , I_B=2 A	-	-	1.3	
V_F	Forward Voltage	I_F=4.5 A	-	1.6	2	V
H_{FE}	DC Current Gain	I_C=100 mA , V_{CE}=5.0 V	5	13	30	-
f_T	Transition frequency	V_{CE}=5 V , I_C=0.1 A, f=5MHz	-	7	-	MHz
C_c	Collector capacitance	I_E= i_e= 0, V_{CB}=10 V, f=1 MHz	-	125	-	pF
t_s	Storage Time	-V_{IM}= 4V, L_B= 6µH I_C=I_{Csat}, I_B= 1.4A(-d_{IB}/dt= 0.6A/µs)	-	6.5	-	µs
t_f	Fall Time		-	0.7	-	

MECHANICAL DATA CASE SOT199



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