

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	
Ic	Collector Current		8	Α	
I _{CM}	Collector Peak Current		15	Α	
I B	Base Current		4	Α	
I _{Csat}	Collector Current saturation		4.5	Α	
I _{BM}	Base Peak Current		6	Α	
Pt	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

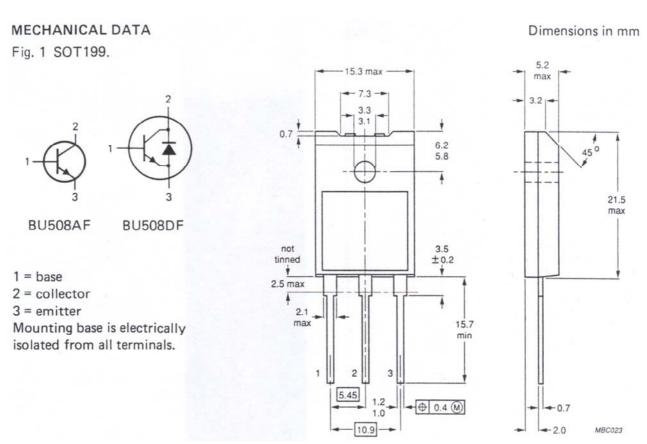
Symbol	Ratings		Value	Unit	
V _{ISOL}	Isolation Voltage from all terminals to external heatsink (peak value)		1500	V	
C _{ISOL}	Isolation capacitance from collector to external heatsink	Тур.	21	pF	

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Тур	Mx	Unit
I _{CES}	Collector Cutoff Current	V _{CE} = V _{CESM} = 1500 V , V _{BE} = 0	_	-	1	mA
•CES	Concotor Cuton Current	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
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⊤	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	-	6.5	-	110
t _f	Fall Time	$I_C = I_{Csat}$, $I_B = 1.4A(-d_{IB}/dt = 0.6A/\mu s)$	-	0.7	-	μs

MECHANICAL DATA CASE SOT199



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