

HIGH-POWER PNP SILICON POWER TRANSISTORS

...designed for use in general-purpose amplifier and switching application .

FEATURES:

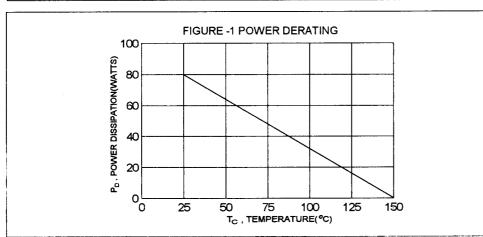
- * Recommend for 45 50W Audio Frequency Amplifier Output stage.
- * Complementary to 2SD718

MAXIMUM RATINGS

Characteristic	Symbol	2SB688	Unit
Collector-Emitter Voltage	V _{CEO}	120	V
Collector-Base Voltage	V _{CBO}	120	V
Emitter-Base Voltage	V _{EBO}	5.0	V
Collector Current - Continuous - Peak	I _C	8.0 16	A
Base current	I _B	0.8	А
Total Power Dissipation @T _C = 25°C Derate above 25°C	P _D	80 0.64	W/°C
Operating and Storage Junction Temperature Range	T _J ,T _{STG}	-55 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	1.56	°C/W



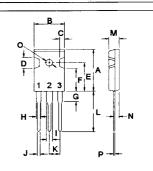
PNP 2SB688

8 AMPERE POWER TRANASISTOR

120 VOLTS 80 WATTS



TO-247(3P)



PIN 1.BASE 2.COLLECTOR 3.EMITTER

DIM	MILLIMETERS			
וועו	MIN	MAX		
Α	20.63	22.38		
В	15.38	16.20		
С	1.90	2.70		
D	5.10	6.10		
Ε	14.81	15.22		
F	11.72	12.84		
G	4.20	4.50		
- H	1.82	2.46		
1	2.92	3.23		
J	0.89	1.53		
K	5.26	5.66		
L	18.50	21.50		
М	4.68	5.36		
N	2.40	2.80		
0	3.25	3.65		
Р	0.55	0.70		

Unit

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

Characteristic

OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage (I _C = 50 mA, I _B = 0)	V _{(BR)CEO}	120		٧
Collector Cutoff Current (V _{CB} = 120 V, I _E = 0)	Ісво		10	uA
Emitter Cutoff Current (V _{EB} = 5.0 V, I _C = 0)	I _{EBO}		10	uА

Symbol

Min

Max

ON CHARACTERISTICS (1)

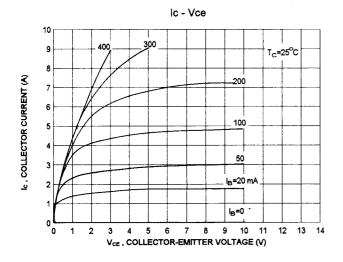
DC Current Gain (I _C = 1.0 A, V _{CE} = 5.0 V)*	hFE(2)	55	160	
Collector-Emitter Saturation Voltage (I _C = 5.0 A, I _B = 0.5 A)	V _{CE(sat)}		2.5	V
Base-Emitter On Voltage (I _C = 5.0 A, V _{CE} =5.0 V)	V _{BE(on)}		1.5	V

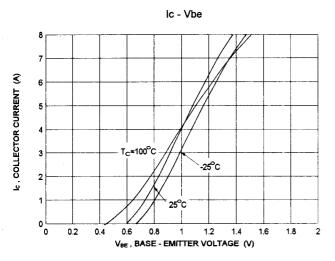
DYNAMIC CHARACTERISTICS

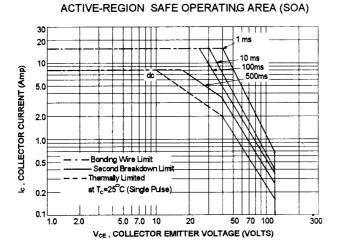
Current-Gain-Bandwidth Product (I _C = 1.0 A, V _{CE} = 5.0 V, f = 1.0 MHz)	f _T	10(typ)	MHz
Output capacitance (V _{CB} = 10 V ,I _E = 0, f = 1.0 MHz)	Сов	280(typ)	pF

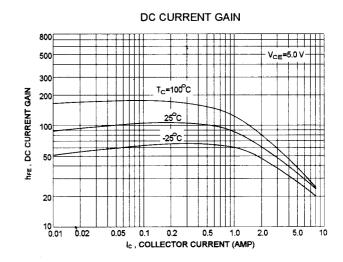
(1) Pulse Test: Pulse Width =300 us,Duty Cycle ≤ 2.0% * hFE(2) Classification :

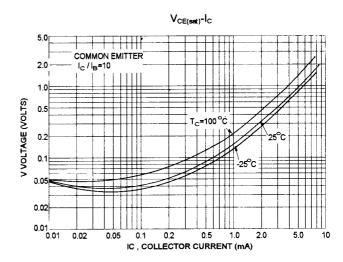
ſ	55	R	110	80	0	160	











There are two limitation on the power handling ability of a transistor:average junction temperature and second breakdown safe operating area curves indicate $I_{\text{C}^-}V_{\text{CE}}$ limits of the transistor that must be observed for reliable operation i.e., the transistor must not be subjected to greater dissipation than curves indicate.

The data of SOA curve is base on $T_{J(PK)}$ =150 °C; T_C is variable depending on conditions, second breakdown pulse limits are valid for duty cycles to 10% provided $T_{J(PK)}$ <150°C, At high case temperatures, thermal limitation will reduce the power that can be handled to values less than the limitations imposed by second breakdown.