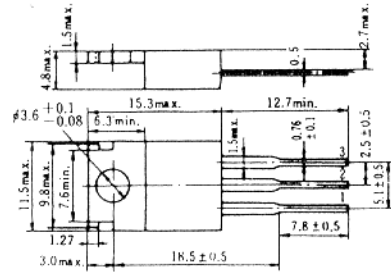


2SB1103, 2SB1104

SILICON PNP TRIPLE DIFFUSED

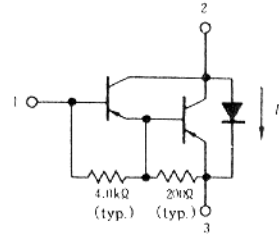
LOW FREQUENCY POWER AMPLIFIER

COMPLEMENTARY PAIR WITH 2SD1603, 2SD1604



(JEDEC TO-220AB)

1. Base
 2. Collector (Flange)
 3. Emitter
- (Dimensions in mm)

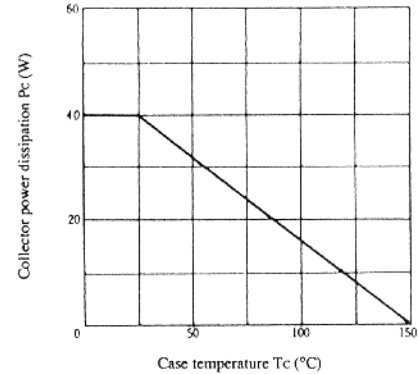


■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SB1103	2SB1104	Unit
Collector to emitter voltage	VCBO	-60	-80	V
Collector to emitter voltage	VCEO	-60	-80	V
Emitter to base voltage	VEBO	-7	-7	V
Collector current	IC	-8	-8	A
Collector peak current	iC(peak)	-12	-12	A
Collector power dissipation	PC*	40	40	W
Junction temperature	Tj	150	150	°C
Storage temperature	Tstg	-55 to +150	-55 to +150	°C
C to E diode forward current	ID*	8	8	A

* Value at Tc = 25°C

MAXIMUM COLLECTOR DISSIPATION CURVE

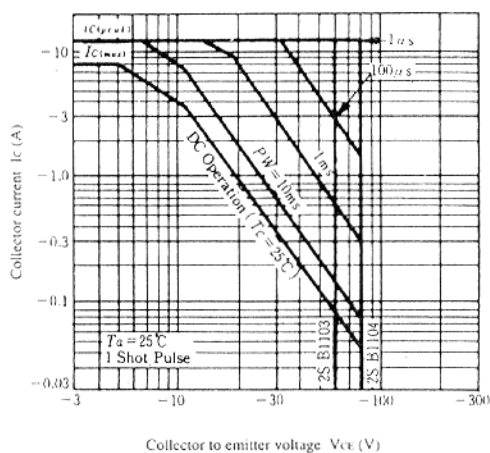


■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

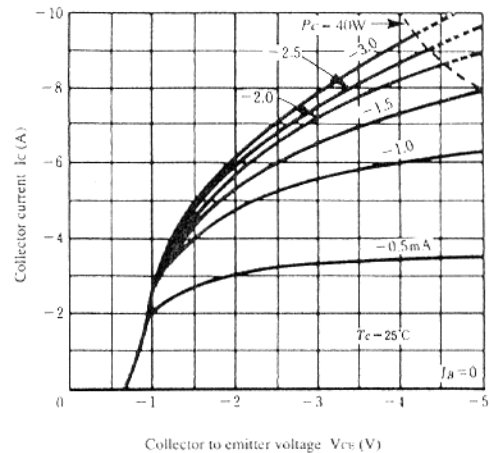
Item	Symbol	Test Condition	2SB1103			2SB1104			Unit
			min.	typ.	max.	min.	typ.	max.	
Collector to emitter breakdown voltage	V(BR)CEO	IC = -25mA, RBE = ∞	-60	—	—	-80	—	—	V
Emitter to base breakdown voltage	V(BR)EBO	IE = -50mA, IC = 0	-7	—	—	-7	—	—	V
Collector cutoff current	ICBO	VCB = -60V, IE = 0	—	—	-100	—	—	-100	μA
	ICEO	VCE = -50V, RBE = ∞	—	—	-10	—	—	-10	μA
DC current transfer ratio	hFE	VCE = -3V, IC = -4A*	1000	—	20000	1000	—	20000	
Collector to emitter saturation voltage	VCE(sat)1	IC = -4A, IB = -8mA*	—	—	-1.5	—	—	-1.5	V
	VCE(sat)2	IC = -8A, IB = -80mA*	—	—	-3.0	—	—	-3.0	
Base to emitter saturation voltage	VBE(sat)1	IC = -4A, IB = -8mA*	—	—	-2.0	—	—	-2.0	V
	VBE(sat)2	IC = -8A, IB = -80mA*	—	—	-3.5	—	—	-3.5	
C to E diode forward voltage	VD	ID = 8A*	—	—	3.0	—	—	3.0	V
Turn on time	ton	IC = -4A, IB1 = -IB2 = -8mA	—	0.5	—	—	0.5	—	μs
Storage time	tstg		—	3.0	—	—	3.0	—	
Fall time	tf		—	1.0	—	—	1.0	—	

* Pulse Test

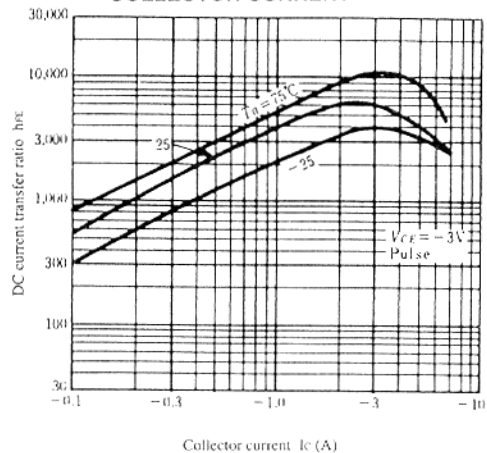
AREA OF SAFE OPERATION



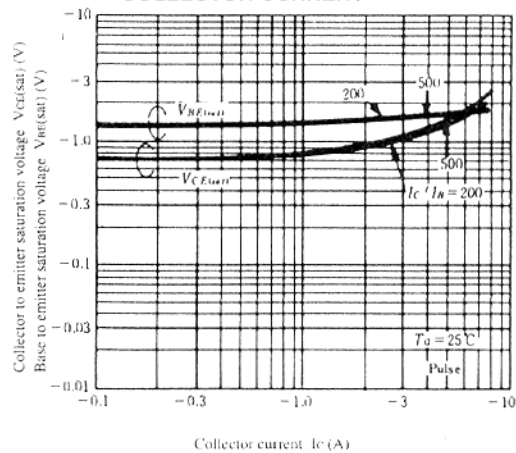
TYPICAL OUTPUT CHARACTERISTICS



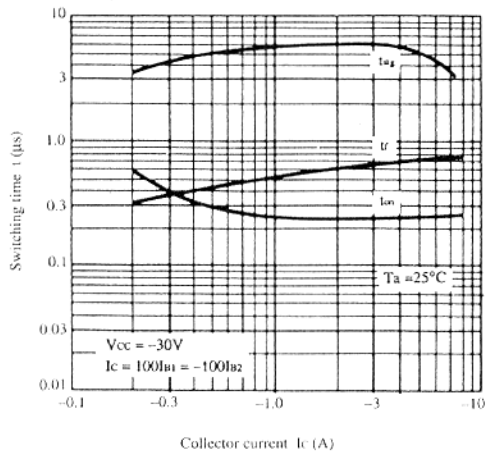
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



SWITCHING TIME VS. COLLECTOR CURRENT



TRANSIENT THERMAL RESISTANCE

