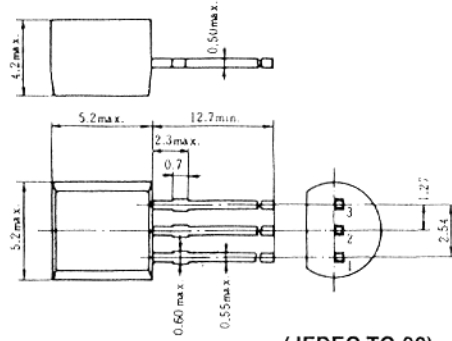


2SA1188, 2SA1189

SILICON PNP EPITAXIAL

LOW FREQUENCY AMPLIFIER

Complementary pair with 2SC2853 and 2SC2854



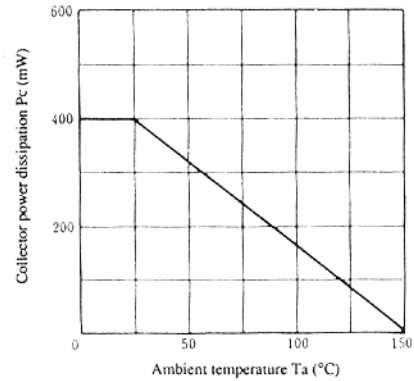
(JEDEC TO-92)

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

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SA1188	2SA1189	Unit
Collector to base voltage	V _{CB0}	-90	-120	V
Collector to emitter voltage	V _{CE0}	-90	-120	V
Emitter to base voltage	V _{EB0}	-5	-5	V
Collector current	I _C	-100	-100	mA
Emitter current	I _E	100	100	mA
Collector power dissipation	P _C	400	400	mW
Junction temperature	T _J	150	150	°C
Storage temperature	T _{stg}	-55 to +150	-55 to +150	°C

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	2SA1188			2SA1189			Unit
			min.	typ.	max.	min.	typ.	max.	
Collector to base breakdown voltage	V _{(BR)CBO}	I _C = -10μA, I _E = 0	-90	—	—	-120	—	—	V
Collector to emitter breakdown voltage	V _{(BR)CEO}	I _C = -1mA, R _{BE} = ∞	-90	—	—	-120	—	—	V
Emitter to base breakdown voltage	V _{(BR)EBO}	I _E = -10μA, I _C = 0	-5	—	—	-5	—	—	V
Collector cutoff current	I _{CBO}	V _{CB} = -70V, I _E = 0	—	—	-0.1	—	—	-0.1	μA
Emitter cutoff current	I _{EBO}	V _{EB} = -2V, I _C = 0	—	—	-0.1	—	—	-0.1	μA
DC current transfer ratio	h _{FE} *	V _{CE} = -12V, I _C = -2mA**	250	—	800	250	—	800	
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = -10mA, I _B = -1mA**	—	-0.05	-0.15	—	-0.05	-0.15	V
Base to emitter saturation voltage	V _{BE(sat)}		—	-0.7	-1.0	—	-0.7	-1.0	V
Gain bandwidth product	f _T	V _{CE} = -6V, I _C = -10mA	—	130	—	—	130	—	MHz
Collector output capacitance	C _{ob}	V _{CB} = -10V, I _E = 0, f = 1MHz	—	3.2	—	—	3.2	—	pF

* The 2SA1188 and 2SA1189 are grouped by h_{FE} as follows.

** Pulse Test

D	E
250 to 500	400 to 800

■ See characteristic curves of 2SA1190 and 2SA1191.