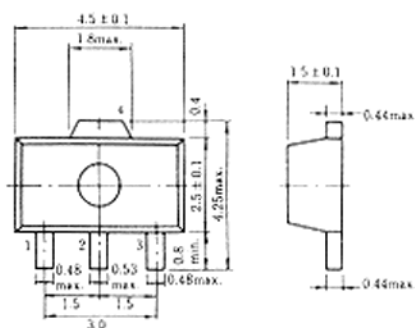


2SD1420

SILICON NPN EPITAXIAL

LOW FREQUENCY POWER AMPLIFIER



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

(UPAK)

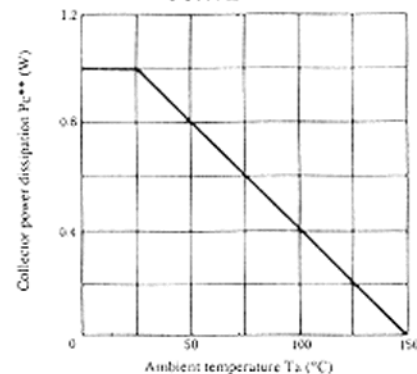
■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD1420	Unit
Collector to base voltage	V_{CBO}	180	V
Collector to emitter voltage	V_{CEO}	120	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	1.5	A
Collector peak current	$i_{C(peak)}$ *	3	A
Collector power dissipation	$P_{C^{**}}$	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

* PWS10ms, Duty cycle ≤20%.

** Value on the alumina ceramic board (12.5×20×0.7mm)

MAXIMUM COLLECTOR DISSIPATION CURVE



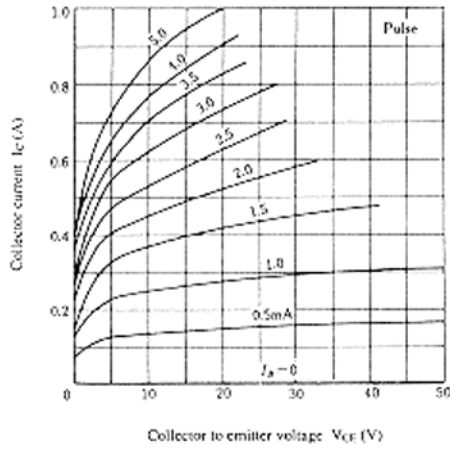
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to base breakdown voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	180	—	—	V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, R_{BE} = \infty$	120	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	5	—	—	V
Collector cutoff current	I_{CBO}	$V_{CB} = 160\text{V}, I_E = 0$	—	—	10	μA
DC current transfer ratio	h_{FE1} *	$V_{CE} = 5\text{V}, I_C = 0.15\text{A}$	60	—	320	
	h_{FE2}	$V_{CE} = 5\text{V}, I_C = 0.5\text{A}$	30	—	—	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 0.5\text{A}, I_B = 50\text{mA}, \text{pulse}$	—	—	1.0	V
Base to emitter voltage	V_{BE}	$V_{CE} = 5\text{V}, I_C = 0.15\text{A}, \text{pulse}$	—	—	0.9	V

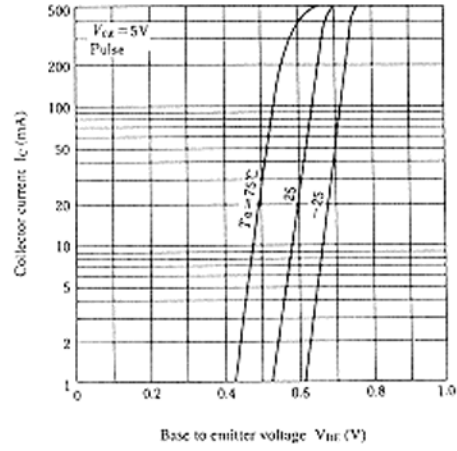
* The 2SD1420 is grouped by h_{FE1} as follows.

Mark	EA	EB	EC
h_{FE1}	60 to 120	100 to 200	160 to 320

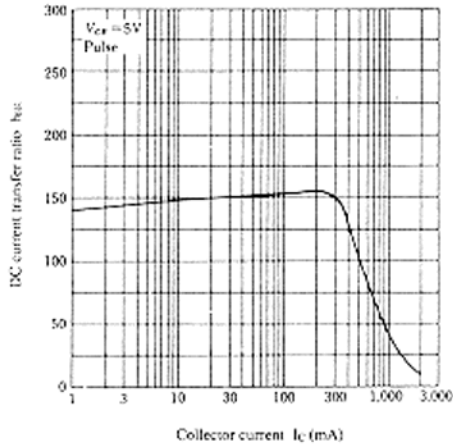
TYPICAL OUTPUT CHARACTERISTICS



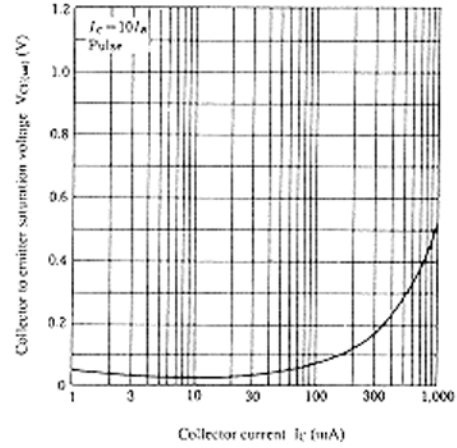
TYPICAL TRANSFER CHARACTERISTICS



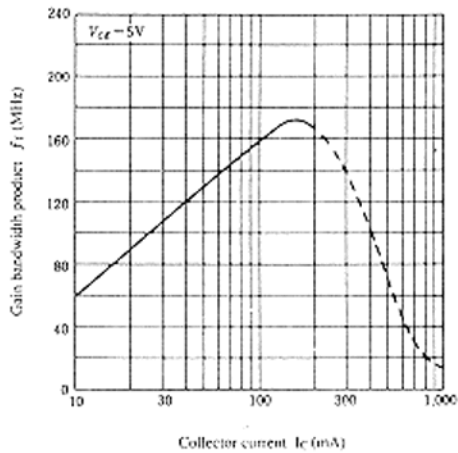
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE

