

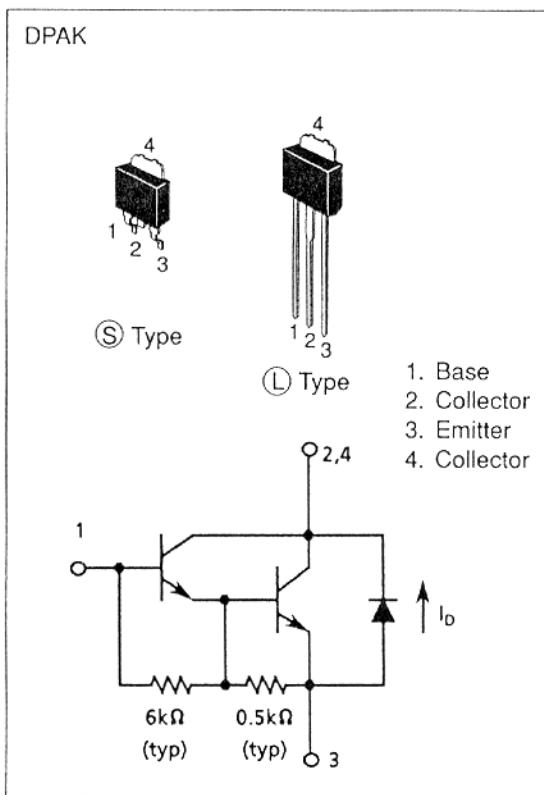
## 2SD2124 (L) / (S)

Silicon NPN Epitaxial  
Low Frequency Power Amplifier

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	120	V
Collector to emitter voltage	$V_{CEO}$	120	V
Emitter to base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	1.5	A
Collector peak current	$i_{C(peak)}$	3.0	A
Collector power dissipation	$P_C^{*1}$	18	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C
C to E diode forward current	$I_D^{*1}$	1.5	A

Note: 1. Value at  $T_C = 25^\circ\text{C}$ .



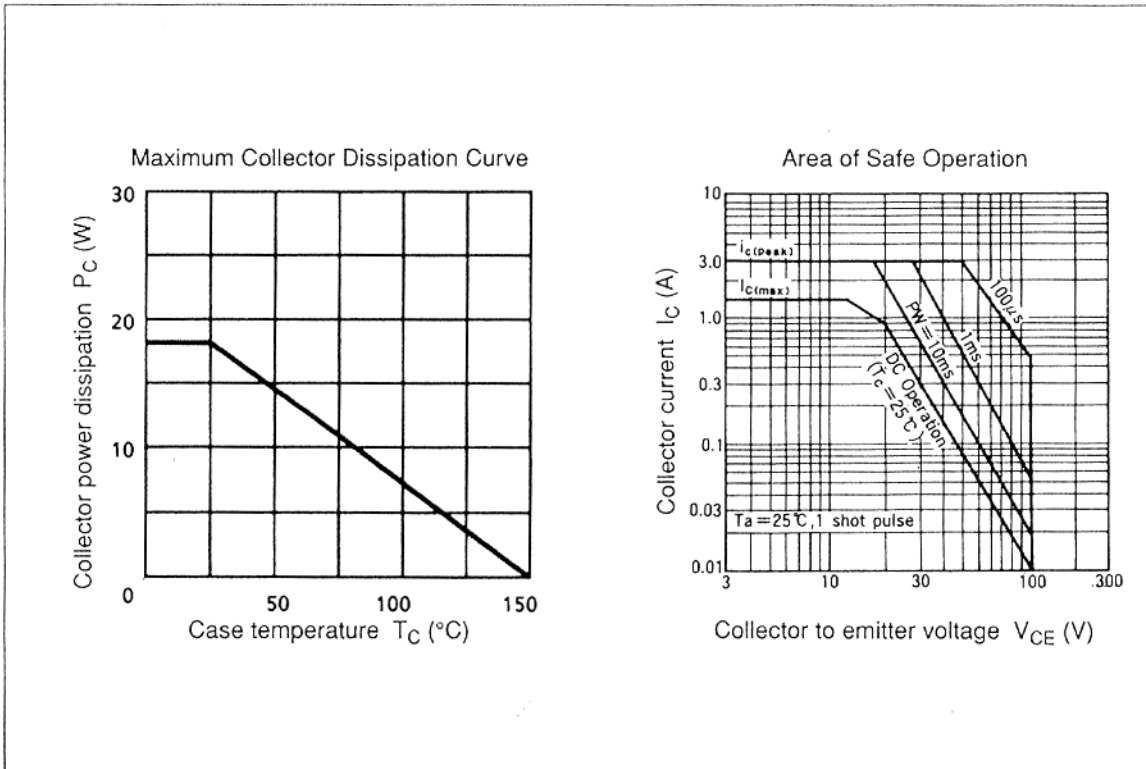
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	—	—	V	$I_C = 0.1 \text{ mA}$ , $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 10 \text{ mA}$ , $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50 \text{ mA}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	10	$\mu\text{A}$	$V_{CB} = 100 \text{ V}$ , $I_E = 0$
	$I_{CEO}$	—	—	10		$V_{CE} = 100 \text{ V}$ , $R_{BE} = \infty$
DC current transfer ratio	$h_{FE}$	2000	—	30000		$V_{CE} = 3 \text{ V}$ , $I_C = 1 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_C = 1 \text{ A}$ , $I_B = 1 \text{ mA}^{*1}$
	$V_{CE(sat)}$	—	—	2.0		$I_C = 1.5 \text{ A}$ , $I_B = 1.5 \text{ mA}^{*1}$

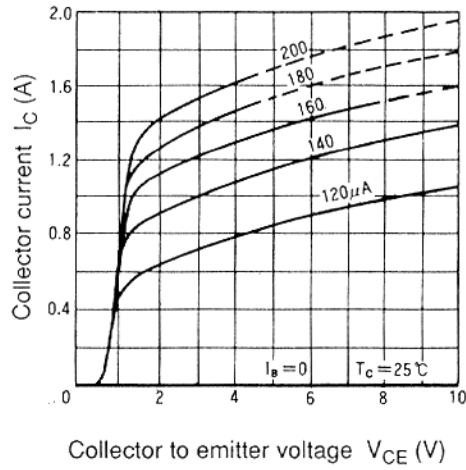
### Electrical Characteristics (Ta = 25°C) (cont)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	2.0	V	$I_C = 1\text{ A}, I_B = 1\text{ mA}^{-1}$
	$V_{BE(sat)}$	—	—	2.5		$I_C = 1.5\text{ A}, I_B = 1.5\text{ mA}^{-1}$
C to E diode forward voltage	$V_D$	—	—	3.0	V	$I_D = 1.5\text{ A}^{-1}$
Turn on time	$t_{on}$	—	0.5	—	$\mu\text{s}$	$I_C = 1\text{ A}, I_{B1} = -I_{B2} = 1\text{ mA}$
Turn off time	$t_{off}$	—	2.0	—	$\mu\text{s}$	

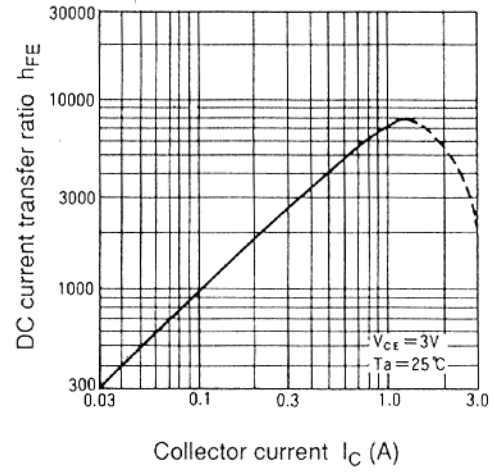
Note: 1. Pulse Test.



Typical Output Characteristics



DC Current Transfer Ratio vs. Collector Current



Saturation Voltage vs. Collector Current

