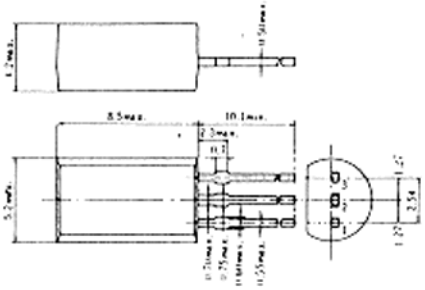
HITACHI

2SD2046

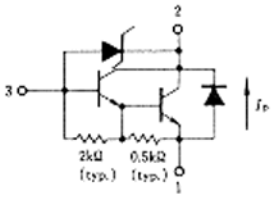
SILICON NPN EPITAXIAL

LOW FREQUENCY POWER AMPLIFIER



1. Emitter
2. Collector
3. Base

(Dimensions in mm)

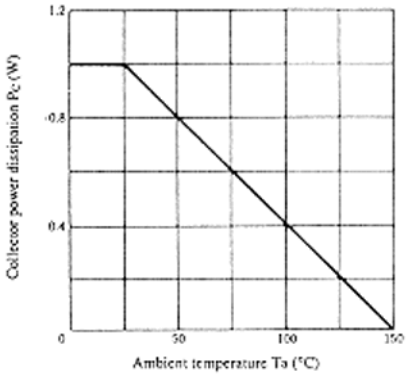


(JEDEC TO-92 MOD.)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD2046	Unit
Collector to emitter voltage	V_{CEO}	50	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	1.0	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C
C to E diode forward current	I_D	1.5	A

MAXIMUM COLLECTOR DISSIPATION CURVE



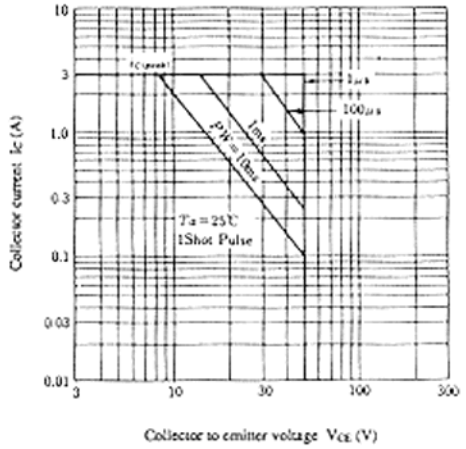
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to base breakdown voltage (Zener breakdown voltage)	$V_{(BR)CBO}$ (V_Z)	I_C = 0.1mA, I_E = ∞	50	60	70	V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 10mA, R_{BE} = ∞	50	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	I_E = 50mA, I_C = 0	7	—	—	V
Collector cutoff current	I_{CEO}	V_{CE} = 40V, R_{BE} = ∞	—	—	10	μA
DC current transfer ratio	h_{FE}	V_{CE} = 3V, I_C = 1A*	2000	—	10000	
Collector to emitter saturation voltage	$V_{CE(sat)1}$	I_C = 1A, I_B = 1mA*	—	—	1.5	V
	$V_{CE(sat)2}$	I_C = 1.5A, I_B = 1.5mA*	—	—	2.0	V
Base to emitter saturation voltage	$V_{BE(sat)1}$	I_C = 1A, I_B = 1mA*	—	—	2.0	V
	$V_{BE(sat)2}$	I_C = 1.5A, I_B = 1.5mA*	—	—	2.5	V
C to E diode forward voltage	V_D	I_D = 1.5A*	—	—	3.0	V

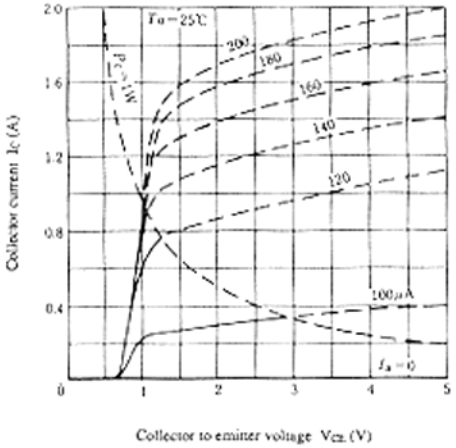
* Pulse Test

2SD2046

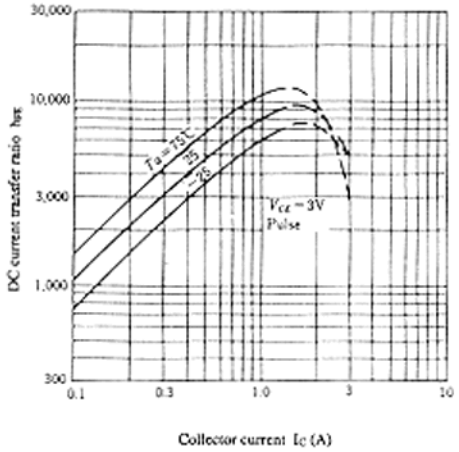
AREA OF SAFE OPERATION



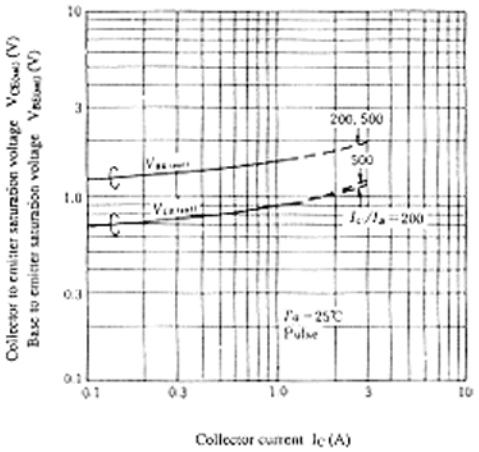
TYPICAL OUTPUT CHARACTERISTICS



DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



TRANSIENT THERMAL RESISTANCE