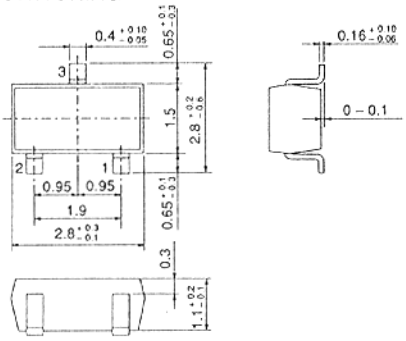
HITACHI

2SA1666

SILICON PNP EPITAXIAL

HIGH FREQUENCY AMPLIFIER-SWITCHING



1. Emitter
2. Base
3. Collector

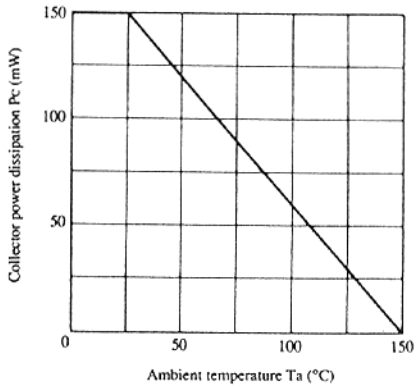
(Dimensions in mm)

(MPAK)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SA1666	Unit
Collector to base voltage	V_{CBO}	–20	V
Collector to emitter voltage	V_{CEO}	–15	V
Emitter to base voltage	V_{EBO}	–4	V
Collector current	I_C	–200	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

MAXIMUM COLLECTOR DISSIPATION CURVE



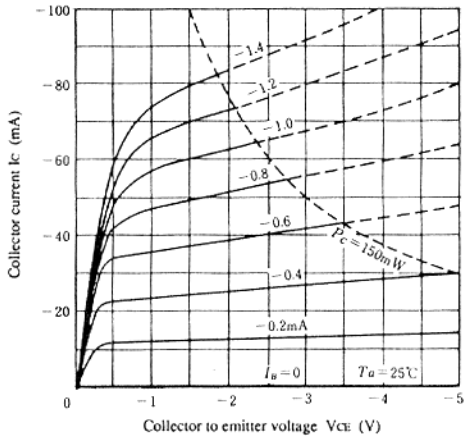
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to base breakdown voltage	$V_{(BR)CBO}$	I_C = –10μA, I_E = 0	–20	—	—	V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	I_C = –10mA, R_{BE} = ∞	–15	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	I_E = –100μA, I_C = 0	–4	—	—	V
Collector cutoff current	I_{CBO}	V_{CB} = –16V, I_E = 0	—	—	–0.2	μA
Emitter cutoff current	I_{EBO}	V_{EB} = –2V, I_C = 0	—	—	–0.2	μA
DC current transfer ratio	h_{FE}	V_{CE} = –0.5V, I_C = –30mA	20	—	200	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = –30mA, I_B = –1mA	—	—	–0.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = –30mA, I_B = –1mA	—	—	–1.0	V
Turn on time	t_{on}	I_C = –30mA, I_{B1} = –I_{B2} = –3mA	—	35	—	ns
Turn off time	t_{off}	I_C = –30mA, I_{B1} = –I_{B2} = –3mA	—	70	—	ns

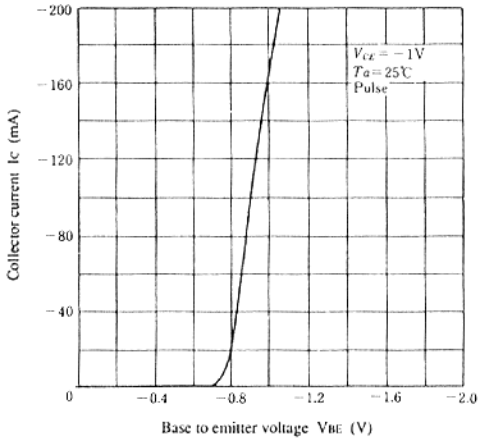
* Marking is "YI–".

2SA1666

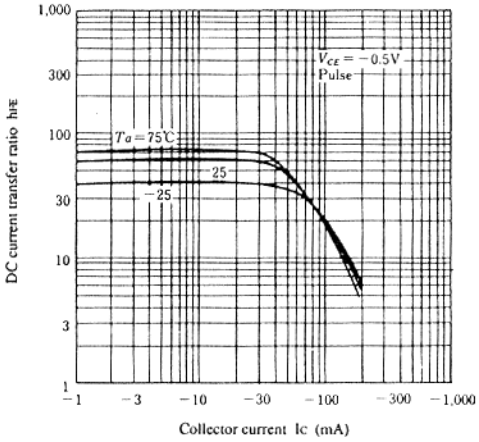
TYPICAL OUTPUT CHARACTERISTICS



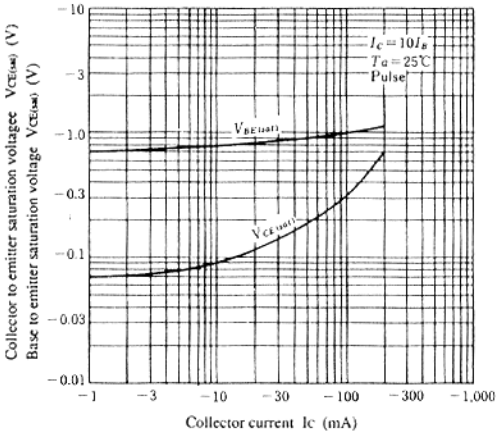
TYPICAL TRANSFER CHARACTERISTICS



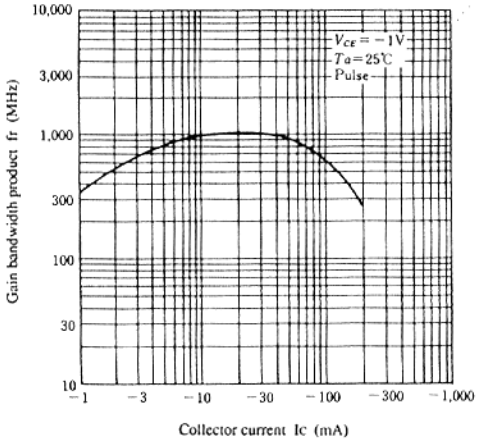
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE