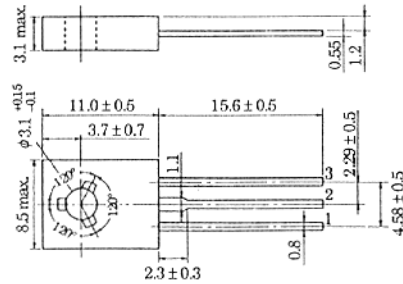


## 2SD781

SILICON NPN EPITAXIAL

POWER SWITCHING

TV HORIZONTAL DEFLECTION OUTPUT



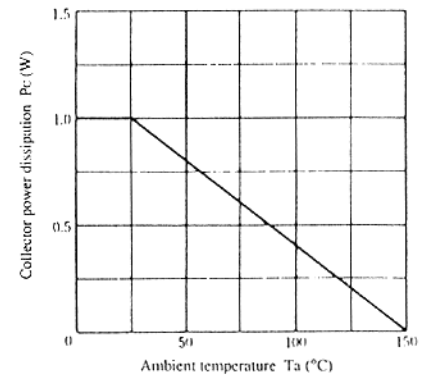
1. Emitter
  2. Collector
  3. Base
- (Dimensions in mm)

(JEDEC TO-220AB)

### ■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD781	Unit
Collector to base voltage	V <sub>CB0</sub>	150	V
Collector to emitter voltage	V <sub>CEO</sub>	60	V
Emitter to base voltage	V <sub>EBO</sub>	5	V
Collector current	I <sub>C</sub>	2	A
Collector peak current	i <sub>c(peak)</sub>	2.5	A
Collector surge current	I <sub>C(surge)</sub>	5	A
Collector power dissipation	P <sub>C</sub>	1.0	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

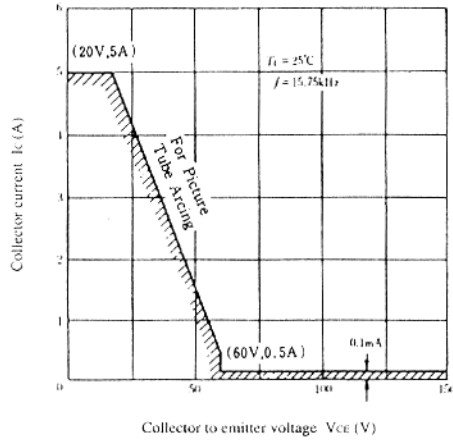
### MAXIMUM COLLECTOR DISSIPATION CURVE



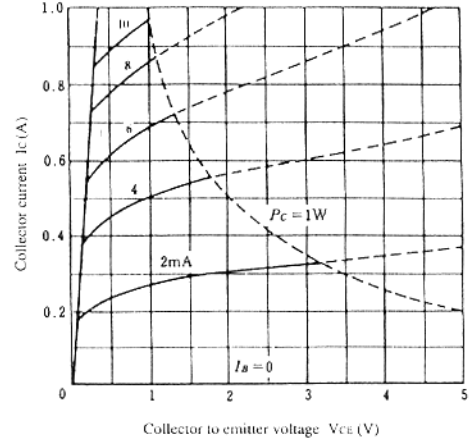
### ■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 1.0mA, I <sub>E</sub> = 0	150	—	—	V
Collector to emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 10mA, R <sub>BE</sub> = ∞	60	—	—	V
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 1.0mA, I <sub>C</sub> = 0	5	—	—	V
Collector cutoff current	I <sub>CB0</sub>	V <sub>CB</sub> = 100V, I <sub>E</sub> = 0	—	—	1.0	μA
DC current transfer ratio	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1.5A (Pulse Test)	100	150	—	
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 1.5A, I <sub>B</sub> = 0.05mA	—	0.45	0.6	V
Base to emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 1.5A, I <sub>B</sub> = 0.05mA	—	1.10	1.3	V
Fall time	t <sub>f</sub>	I <sub>C</sub> = 1.5A, I <sub>B1</sub> = -I <sub>B2</sub> = 50mA, L <sub>B</sub> = 0	—	0.35	0.6	μs

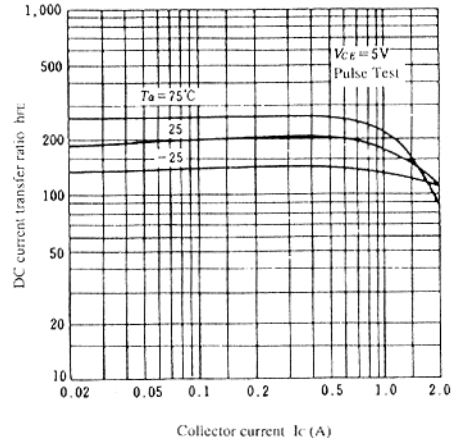
AREA OF SAFE OPERATION



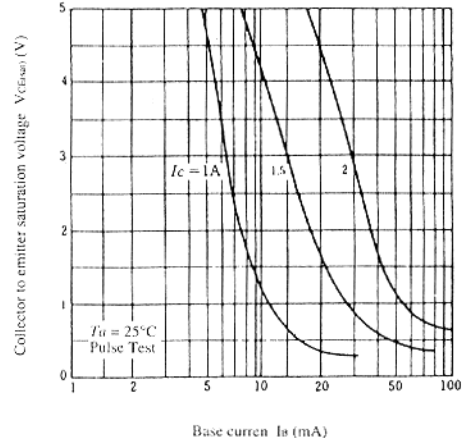
TYPICAL OUTPUT CHARACTERISTICS



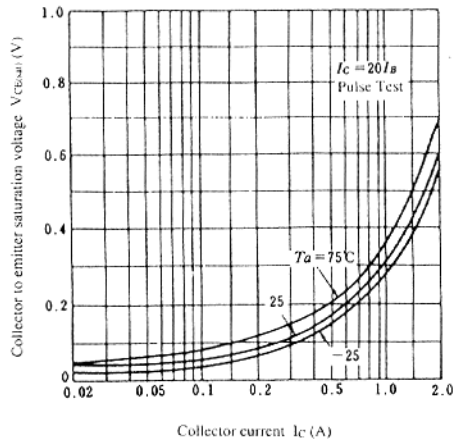
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. BASE CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



BASE TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT

