

(SMALL-SIGNAL TRANSISTOR)

**2SC4356**

FOR HIGH CURRENT DRIVE APPLICATION  
SILICON NPN EPITAXIAL TYPE

**DESCRIPTION**

2SC4356 is a silicon NPN epitaxial type transistor designed relay drive application.

**FEATURE**

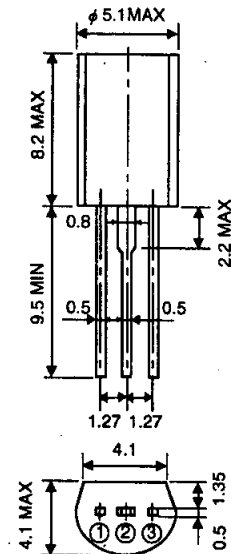
- High voltage  $V_{CE0}=60V$
- High collector current  $I_C=2A$
- Low  $V_{CE(sat)}$   $V_{CE(sat)}=0.5V_{max}$  ( $I_C=1A, I_B=50mA$ )
- High collector dissipation  $P_C=900mW$

**APPLICATION**

Audio machine, VCR, relay drive.

**OUTLINE DRAWING**

Unit:mm



**TERMINAL CONNECTOR**

- ① : EMITTER                    EIAJ : —
- ② : COLLECTOR                JEDEC : —
- ③ : BASE

Note)  
The dimension without tolerance represent central value.

**MAXIMUM RATINGS (Ta=25°C)**

Symbol	Parameter	Ratings	Unit
V <sub>CB0</sub>	Collector to Base voltage	60	V
V <sub>EB0</sub>	Emitter to Base voltage	6	V
V <sub>CE0</sub>	Collector to Emitter voltage	60	V
I <sub>CM</sub>	Peak Collector current	3	A
I <sub>C</sub>	Collector current	2	A
P <sub>C</sub>	Collector dissipation(Ta=25°C)	900	mW
T <sub>j</sub>	Junction temperature	+150	°C
T <sub>stg</sub>	Storage temperature	-55 to +150	°C

**ELECTRIAL CHARACTERISTICS (Ta=25°C)**

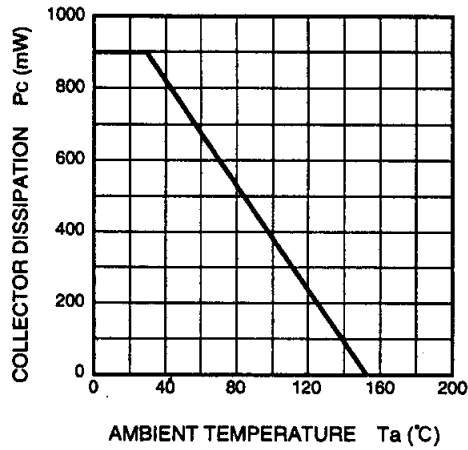
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V <sub>(BR)CBO</sub>	C to B break down voltage	I <sub>C</sub> =10 μA, I <sub>E</sub> =0	60			V
V <sub>(BR)EBO</sub>	E to B break down voltage	I <sub>E</sub> =10 μA, I <sub>C</sub> =0	6			V
V <sub>(BR)CEO</sub>	C to E break down voltage	I <sub>C</sub> =2mA, R <sub>BE</sub> =∞	60			V
I <sub>CB0</sub>	Collector cut off current	V <sub>CB</sub> =50V, I <sub>E</sub> =0			0.2	μA
I <sub>EB0</sub>	Emitter cut off current	V <sub>EB</sub> =4V, I <sub>C</sub> =0			0.2	μA
h <sub>FE</sub> *	DC forward current gain	V <sub>CE</sub> =4V, I <sub>C</sub> =100mA	55		300	—
V <sub>CE(sat)</sub>	C to E saturation voltage	I <sub>C</sub> =1A, I <sub>B</sub> =50mA		0.2	0.5	V
f <sub>T</sub>	Gain band width product	V <sub>CE</sub> =2V, I <sub>E</sub> =-10mA		80		MHz
C <sub>ob</sub>	Collector output capacitance	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz		18		pF

\* : It shows h<sub>FE</sub> classification in right table.

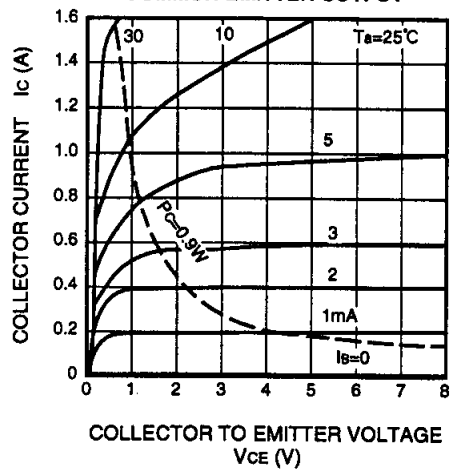
Item	C	D	E
h <sub>FE</sub>	55 to 110	90 to 180	150 to 300

**TYPICAL CHARACTERISTICS**

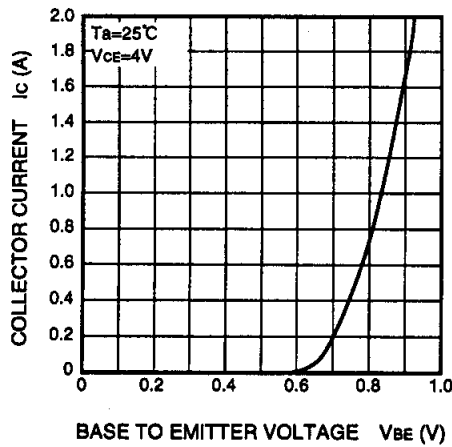
**COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE**



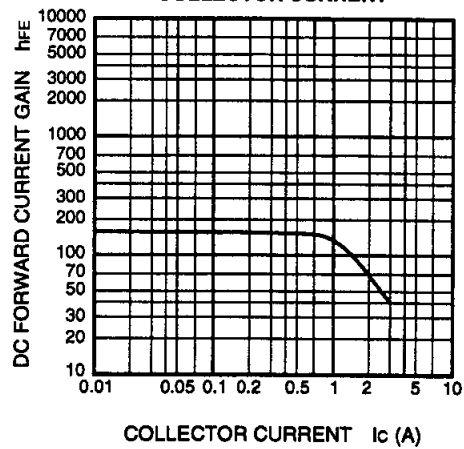
**COMMON EMITTER OUTPUT**



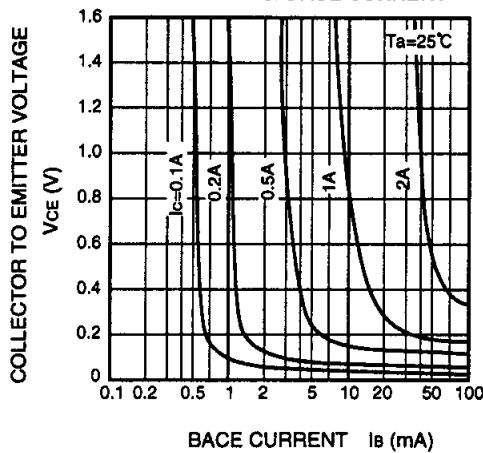
**COMMON EMITTER TRANSFER**



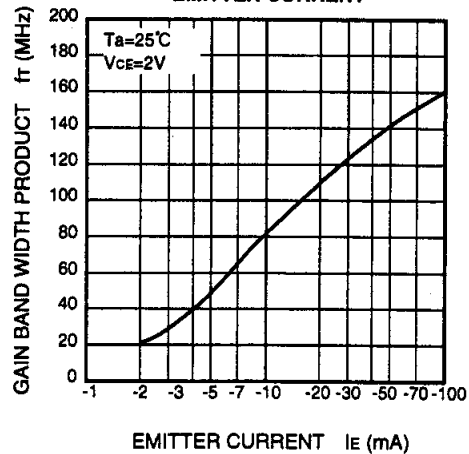
**DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT**

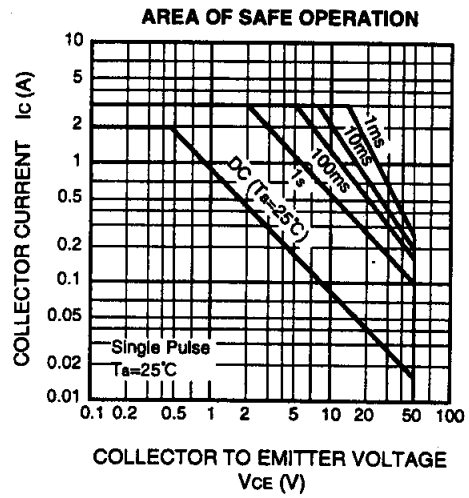
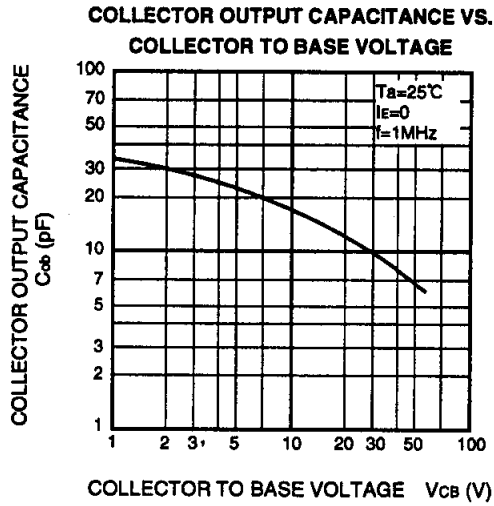


**COLLECTOR TO EMITTER SATURATION VOLTAGE VS. BASE CURRENT**



**GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT**





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