

**FOR GENERAL-PURPOSE HIGH CURRENT DRIVE APPLICATION  
SILICON PNP EPITAXIAL TYPE**

**DESCRIPTION**

2SA1945 is a resin sealed silicon PNP epitaxial type transistor. It is designed with high collector current and high voltage.

Complementary with 2SC5211.

**FEATURE**

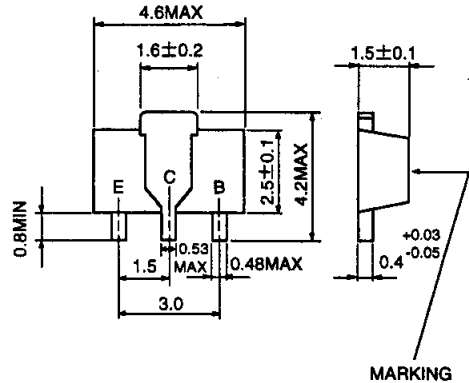
- High voltage  $V_{CE0} = -50V$
- High  $f_t$   $f_t = 150MHz$  typ
- Excellent linearity of DC forward current gain
- High collector current  $I_{CM} = 600mA$
- Small package for mounting

**APPLICATION**

For switching, small motor drive application.

**OUTLINE DRAWING**

Unit:mm



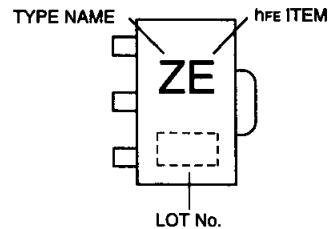
**TERMINAL CONNECTOR**

- E : EMITTER
- C : COLLECTOR
- B : BASE
- EIAJ : SC-62
- JEDEC : -

Note)

The dimension without tolerance represent central value.

**MARKING**



**MAXIMUM RATINGS (Ta=25°C)**

Symbol	Parameter	Ratings	Unit
V <sub>CB0</sub>	Collector to Base voltage	-55	V
V <sub>EB0</sub>	Emitter to Base voltage	-4	V
V <sub>CE0</sub>	Collector to Emitter voltage	-50	V
I <sub>CM</sub>	Peak collector current	-600	mA
I <sub>C</sub>	Collector current	-400	mA
P <sub>C</sub>	Collector dissipation(Ta=25°C)	500	mW
T <sub>J</sub>	Junction temperature	+150	°C
T <sub>stg</sub>	Storage temperature	-55 to +150	°C

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

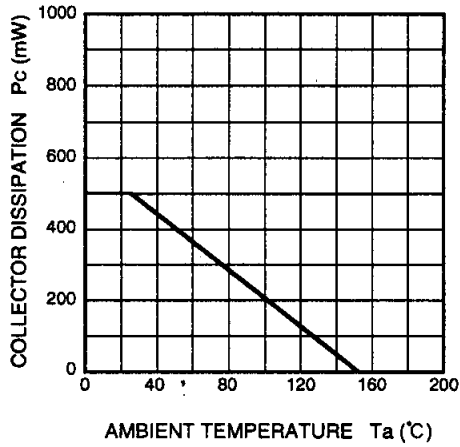
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V <sub>(BR)CBO</sub>	C to B break down voltage	I <sub>C</sub> =-10 μA, I <sub>E</sub> =0	-55			V
V <sub>(BR)EBO</sub>	E to B break down voltage	I <sub>E</sub> =-10 μA, I <sub>C</sub> =0	-4			V
V <sub>(BR)CEO</sub>	C to E break down voltage	I <sub>C</sub> =-100 μA, R <sub>BE</sub> =∞	-50			V
I <sub>CB0</sub>	Collector cut off current	V <sub>CB</sub> =-25V, I <sub>E</sub> =0			-1	μA
I <sub>EB0</sub>	Emitter cut off current	V <sub>BE</sub> =-2V, I <sub>C</sub> =0			-1	μA
h <sub>FE</sub> *	DC forward current gain	V <sub>CE</sub> =-4V, I <sub>C</sub> =-100mA	90		500	—
V <sub>CE(sat)</sub>	C to E saturation voltage	I <sub>C</sub> =-200mA, I <sub>B</sub> =-10mA		-0.17	-0.5	V
f <sub>T</sub>	Gain band width product	V <sub>CE</sub> =-6V, I <sub>E</sub> =-10mA		150		MHz

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

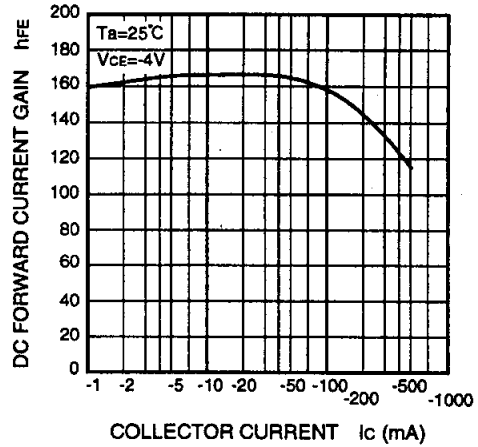
Marking	ZD	ZE	ZF
h <sub>FE</sub>	90 to 180	150 to 300	250 to 500

TYPICAL CHARACTERISTICS

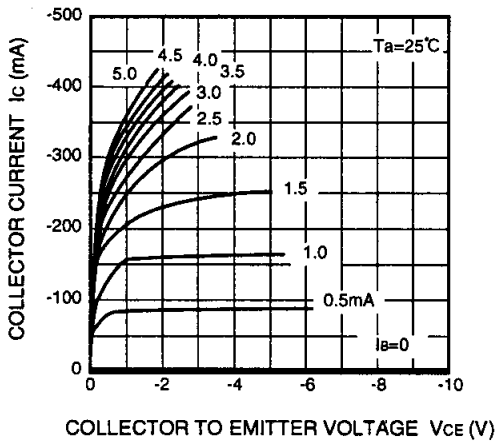
COLLECTOR DISSIPATION  
VS. AMBIENT TEMPERATURE



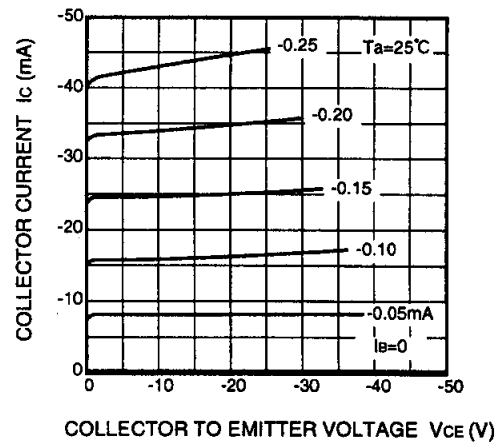
DC FORWARD CURRENT GAIN  
VS. COLLECTOR CURRENT



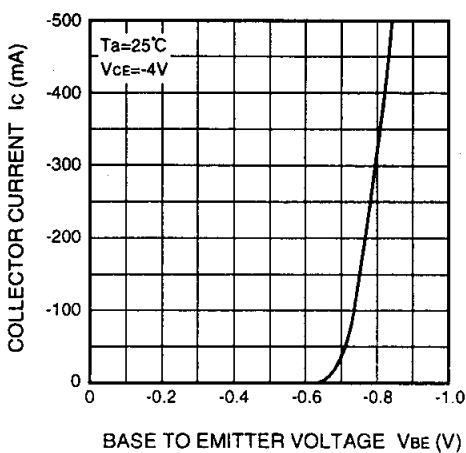
COMMON EMITTER OUTPUT(1)



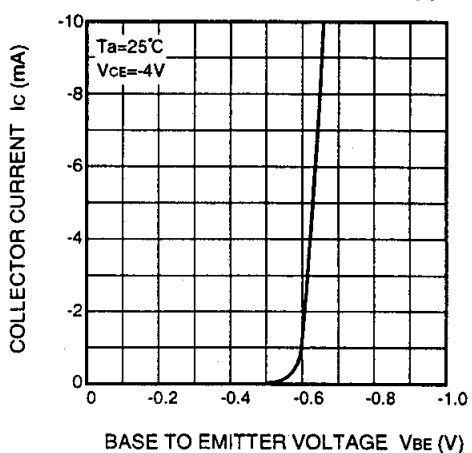
COMMON EMITTER OUTPUT(2)



COMMON EMITTER TRANSFER(1)



COMMON EMITTER TRANSFER(2)



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