〈SMALL-SIGNAL TRANSISTOR〉

2SA1944

FOR RELAY DRIVE POWER SUPPLY APPLICATION
SILICON PNP EPITAXIAL TYPE

DESCRIPTION

2SA1944 is a silicon PNP epitaxial type transistor. It is designed with high voltage, high collector current and high h_{FE}.

Complementary with 2SC5209.

FEATURE

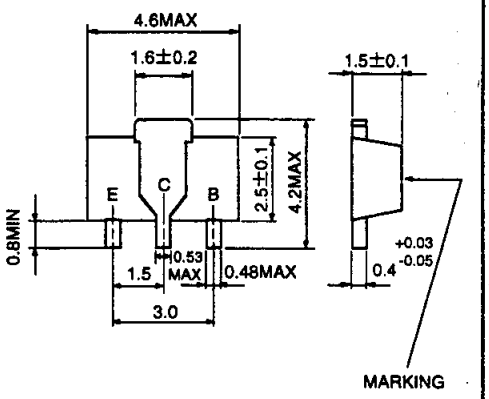
- High voltage V_{CEO}=-50V
- Low collector to emitter saturation voltage
  $V_{CE(sat)}$=-0.2V typ (@I_C=-500mA,I_B=-10mA)
- High h_{FE} h_{FE}=400 to 800
- Small package for mounting

APPLICATION

Audio machine, VCR, relay drive of other electronic machine, power supply.

OUTLINE DRAWING

Unit:mm



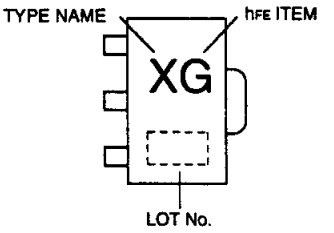
TERMINAL CONNECTOR

E : EMITTER
C : COLLECTOR
B : BASE

EIAJ : SC-62
JEDEC : –

Note)
The dimension without tolerance represent central value.

MARKING



MAXIMUM RATINGS (Ta=25℃)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	-50	V
V_{EBO}	Emitter to Base voltage	-6	V
V_{CEO}	Collector to Emitter voltage	-50	V
I_{CM}	Peak collector current	-2	A
I_C	Collector current	-1	A
P_C	Collector dissipation(Ta=25℃)	500	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	-55 to +150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	I_C=-10 μA,I_E=0	-50			V
$V_{(BR)EBO}$	E to B break down voltage	I_E=-10 μA,I_C=0	-6			V
$V_{(BR)CEO}$	C to E break down voltage	I_C=-1mA,R_{BE}=∞	-50			V
I_{CBO}	Collector cut off current	V_{CB}=-40V,I_E=0			-0.1	μA
I_{EBO}	Emitter cut off current	V_{EB}=-2V,I_C=0			-0.1	μA
h_{FE} *	DC forward current gain	V_{CE}=-6V,I_C=-100mA	400		800	—
$V_{CE(sat)}$	C to E saturation voltage	I_C=-500mA,I_B=-10mA		-0.2	-0.5	V
f_T	Gain band width product	V_{CE}=-10V,I_E=-10mA		90		MHz
C_{ob}	Collector output capacitance	V_{CB}=-10V,I_E=0,f=1MHz		30		pF

* : It shows h_{FE} classification in right table.

Marking	XG
h_{FE}	400 to 800

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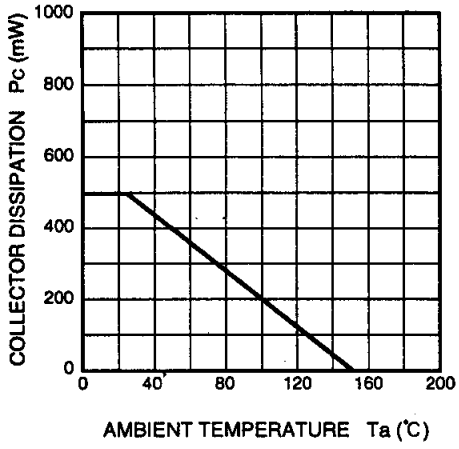
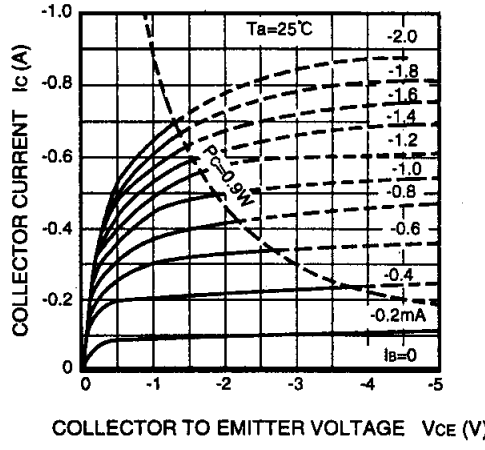
TYPICAL CHARACTERISTICS

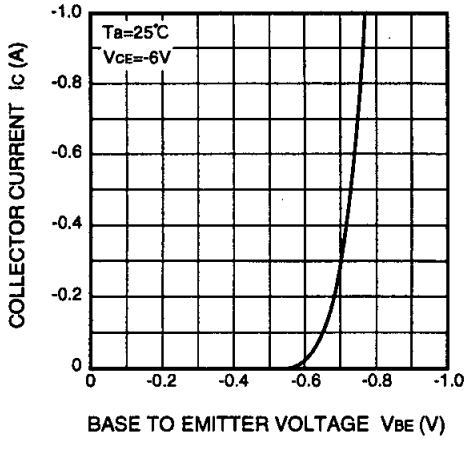
COLLECTOR DISSIPATION VS.AMBIENT TEMPERATURE



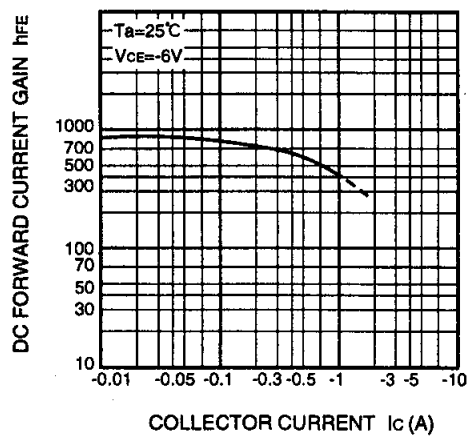
COMMON EMITTER OUTPUT



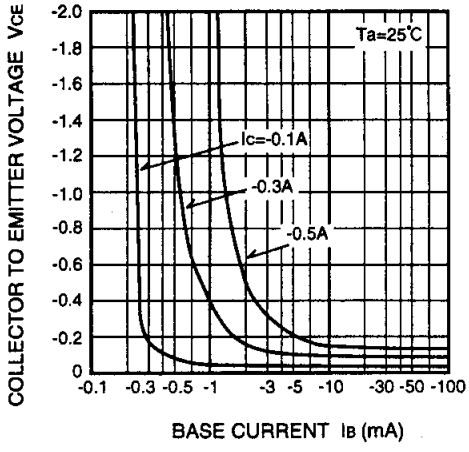
COMMON EMITTER TRANSFER



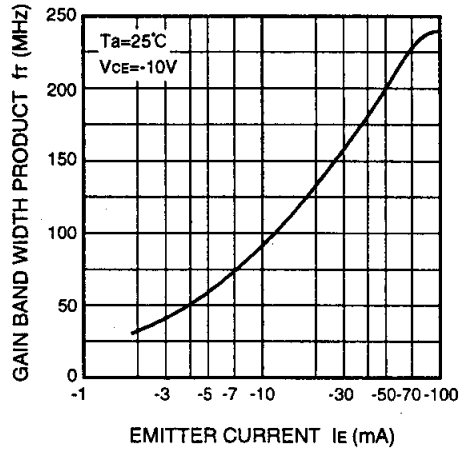
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. BASE CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



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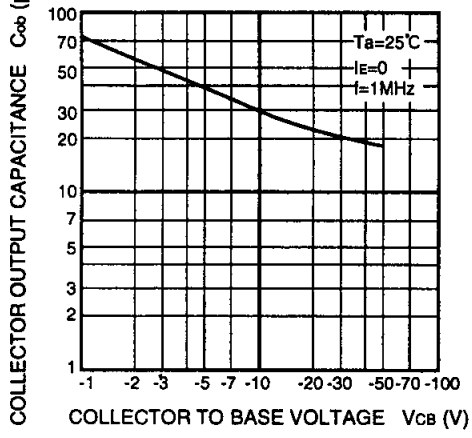
COLLECTOR OUTPUT CAPACITANCE
VS.COLLECTOR TO BASE VOLTAGE



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