〈SMALL-SIGNAL TRANSISTOR〉

ISA1399AS1

FOR GENERAL PURPOSE HIGH CURRENT DRIVE APPLICATION
SILICON PNP EPITAXIAL TYPE

DESCRIPTION

ISA1399AS1 is a silicon PNP epitaxial type transistor designed with High collector current, high voltage.
Complementary with ISA3581AS1.

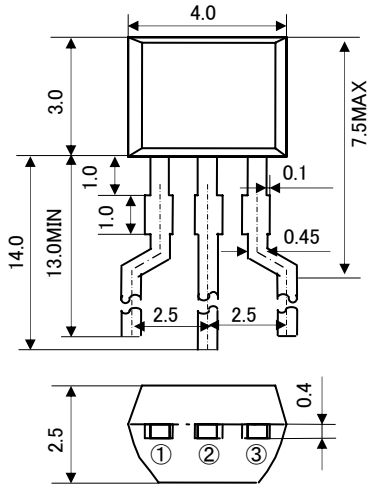
FEATURE

- High collector current. I_{CM}=600mA
- High gain band width product. fT=150MHz typ
- High V_{CEO}. V_{CEO}=−50V
- Excellent linearity of DC forward current gain.

APPLICATION

For switching, small type motor drive application.

OUTLINE DRAWING Unit:mm



JEITA:
JEDEC:

TERMINAL CONNECTER
①:EMITTER
②:COLLECTOR
③:BASE

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MAXIMUM RATINGS(Ta=25℃)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	−55	V
V_{EBO}	Emitter to Base voltage	−4	V
V_{CEO}	Collector to Emitter voltage	−50	V
I_C	Collector current	−400	mA
I_{CM}	Peak collector current	−600	mA
P_c	Collector dissipation	600	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

ELECTRICAL CHARACTERISTICS(Ta=25℃)

Parameter	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	I_C= −10 μA , I_E = 0	−55	−	−	V
$V_{(BR)EBO}$	E to B break down voltage	I_E= −10 μA , I_C = 0	−4	−	−	V
$V_{(BR)CEO}$	C to E break down voltage	I_C= −100 μA , R_{BE}= ∞	−50	−	−	V
ICBO	Collector cut off current	V_{CB}= −25V , I_E= 0mA	−	−	−1	μA
IEBO	Emitter cut off current	V_{EB} = −2V , I_C= 0mA	−	−	−1	μA
hFE※	DC forward current gain	V_{CE} = −4V , I_C= −100mA	90	−	500	−
VCE(sat)	C to E Saturation Voltage	I_C= −200mA , I_B= −10mA	−	−0.17	−0.5	V
fT	Gain band width product	V_{CE}= −6V , I_E= 10mA	−	150	−	MHz

※) It shows hFE classification in right table.

Item	D	E	F
hFE item	90～180	150～300	250～500

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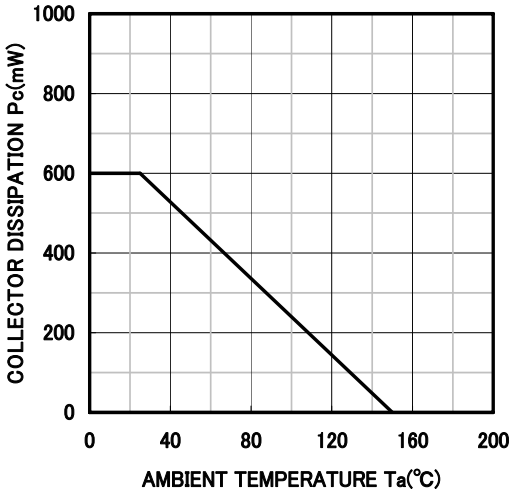
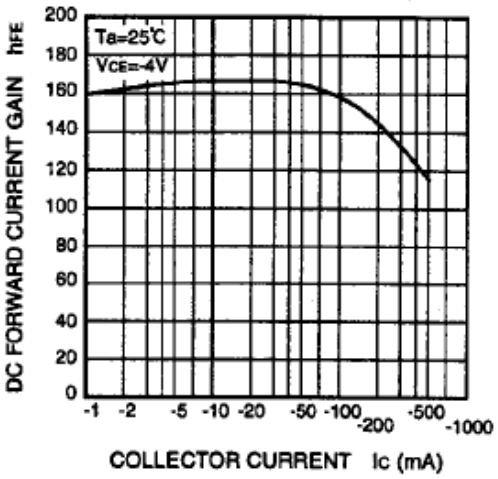
TYPICAL CHARACTERISTICS

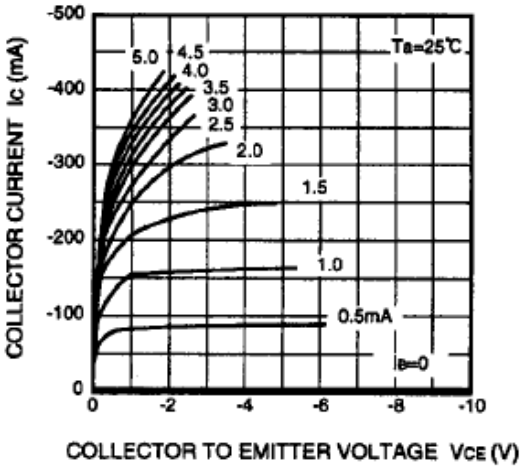
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



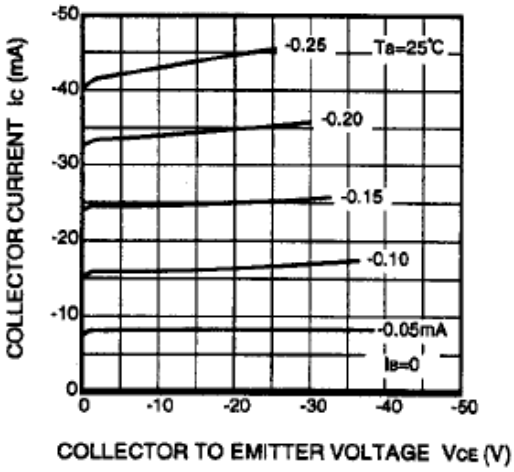
DC FORWARD CURRENT GAIN VS.COLLECTOR CURRENT



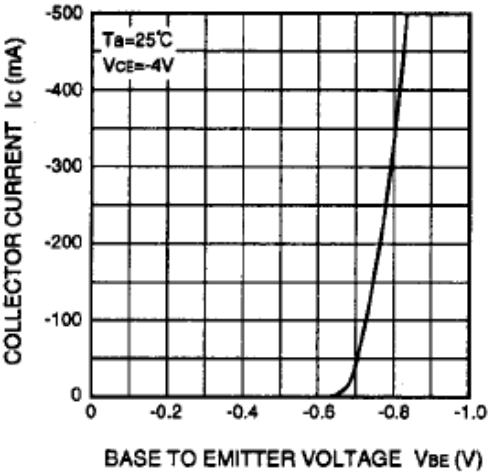
COMMON EMITTER OUTPUT(1)



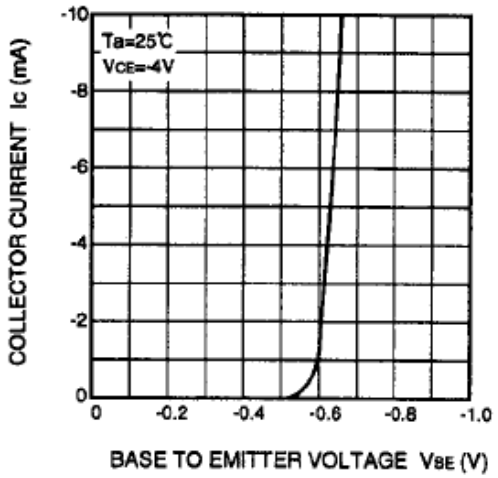
COMMON EMITTER OUTPUT(2)



COMMON EMITTER TRANSFER(1)



COMMON EMITTER TRANSFER(2)



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