〈SMALL-SIGNAL TRANSISTOR〉

ISC3581AS1

FOR GENERAL PURPOSE HIGH CURRENT DRIVE APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

ISC3581AS1 is a silicon NPN epitaxial type transistor designed for high collector current application.

Complementary with ISA1399AS1.

FEATURE

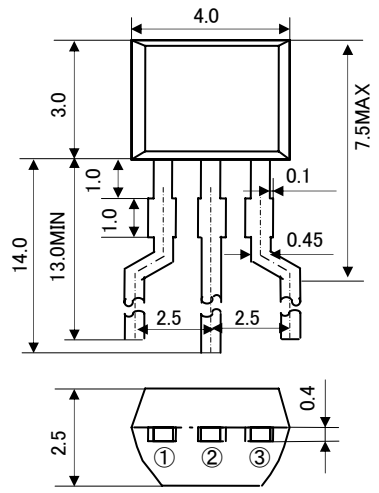
- High collector current. I_{CM}=600mA
- High gain band width product. fT=150MHz typ
- High V_{CEO}. V_{CEO}=50V
- Excellent linearity of DC forward current gain.

APPLICATION

For switching, small type motor drive application.

OUTLINE DRAWING

Unit: mm



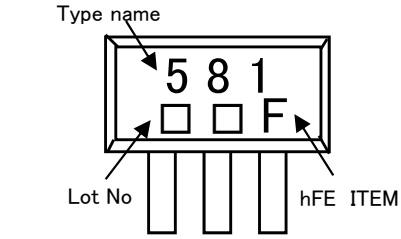
JEITA: –
JEDEC: –

TERMINAL CONNECTER
①: EMITTER
②: COLLECTOR
③: BASE

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	℃

MARKING



ELECTRICAL CHARACTERISTICS (Ta=25℃)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	I_C= 10μA , I_E =0mA	55	–	–	V
$V_{(BR)EBO}$	E to B break down voltage	I_E= 10μA , I_C =0mA	4	–	–	V
$V_{(BR)CEO}$	C to E break down voltage	I_C= 100μA , 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	–	0.15	0.5	V
fT	Gain band width product	V_{CE}=6V , I_E= −10mA	–	150	–	MHz

※) It shows hFE classification in right table.

D	E	F
90～180	150～300	250～500

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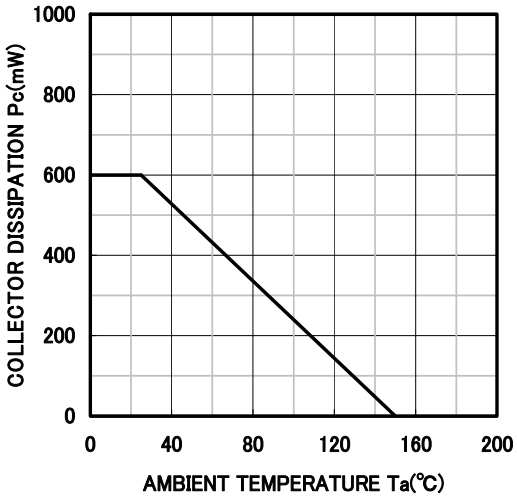
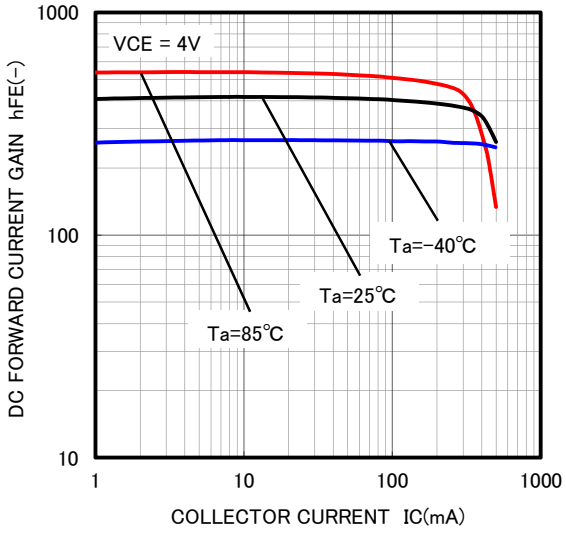
SILICON NPN EPITAXIAL TYPE

TYPICAL CHARACTERISTICS

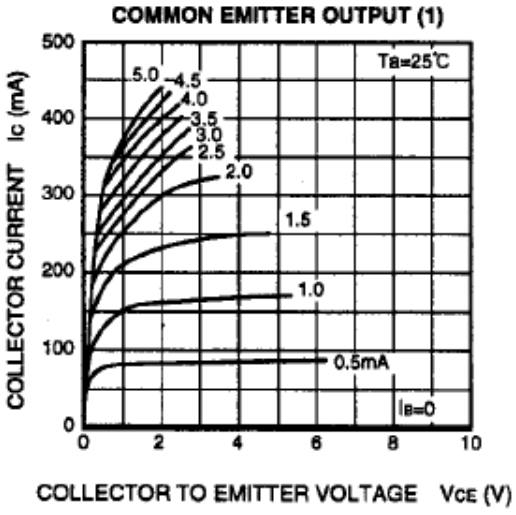
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



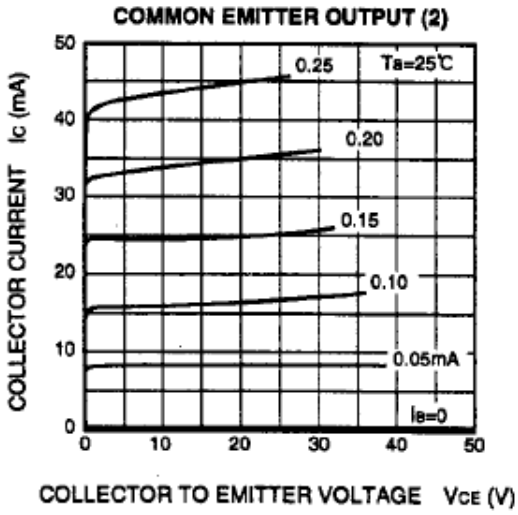
DC FORWARD CURRENT GAIN VS COLLECTOR CURRENT



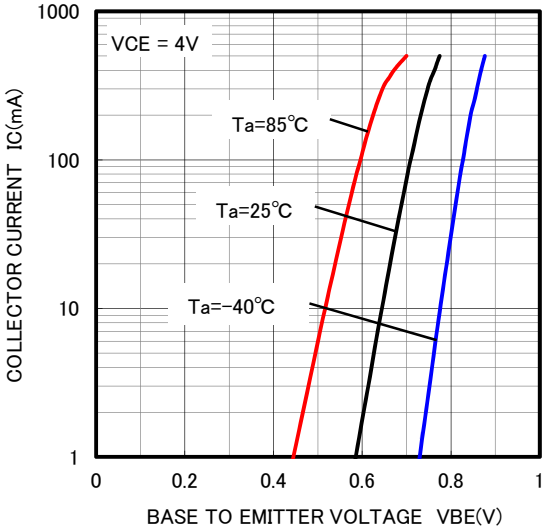
COMMON EMITTER OUTPUT (1)



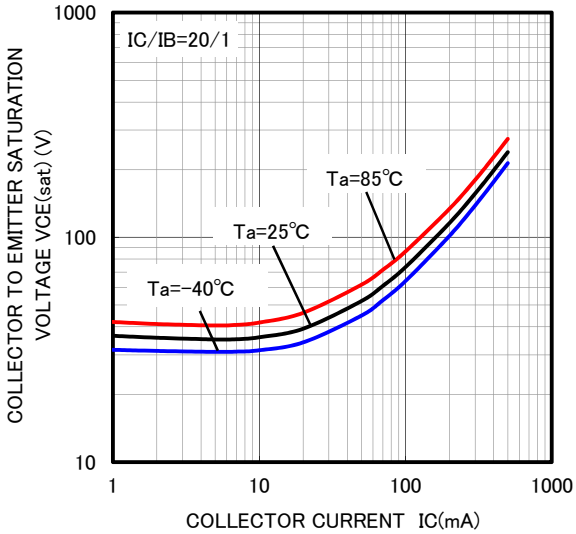
COMMON EMITTER OUTPUT (2)



COMMON EMITTER TRANSFER



COLLECTOR TO EMITTER SATURATION VOLTAGE VS COLLECTOR CURRENT



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