

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

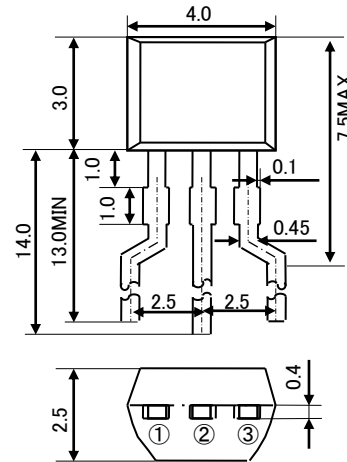
- High voltage $V_{CEO}=50V$
- High collector current $I_{CM}=600mA$
- Excellent linearity of DC forward current gain.
- High gain band width product $f_T=150MHz$ typ

APPLICATION

For switching, small type motor drive application.

OUTLINE DRAWING

Unit:mm



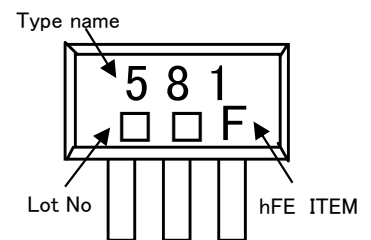
TERMINAL CONNECTOR

- ①: EMITTER JEITA:-
- ②: COLLECTOR JEDEC:-
- ③: BASE

MAXIMUM RATINGS (Ta=25°C)

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

MARKING



ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test conditions	Limits			Unit
			Min	Typ	Max	
C to B breakdown voltage	$V_{(BR)CBO}$	$I_C=10 \mu A, I_E=0mA$	55	-	-	V
E to B breakdown voltage	$V_{(BR)EBO}$	$I_E=10 \mu A, I_C=0mA$	4	-	-	V
C to E breakdown voltage	$V_{(BR)CEO}$	$I_C=100 \mu A, R_{BE}=\infty$	50	-	-	V
Collector cut off current	I_{CBO}	$V_{CB}=25V, I_E=0mA$	-	-	1	μA
Emitter cut off current	I_{EBO}	$V_{EB}=2V, I_C=0mA$	-	-	1	μA
DC forward current gain	h_{FE}	$V_{CE}=4V, I_C=100mA$	90	-	500	-
C to E saturation voltage	$V_{CE(sat)}$	$I_C=200mA, I_B=10mA$	-	0.15	0.5	V
Gain band width product	f_T	$V_{CE}=6V, I_E=-10mA$	-	150	-	MHz

※) It shows h_{FE} classification at right table.

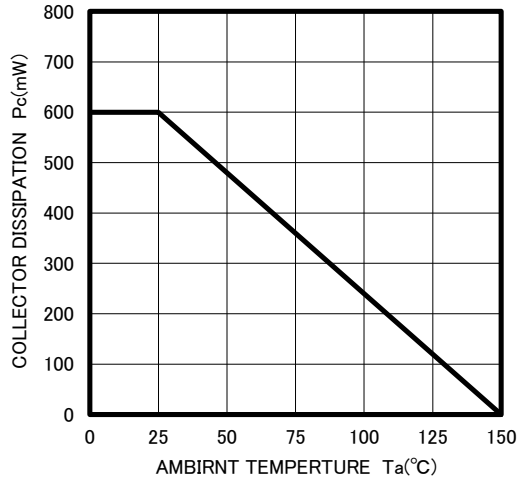
Item	D	E	F
h_{FE}	90~180	150~300	250~500

ISC3581AS1

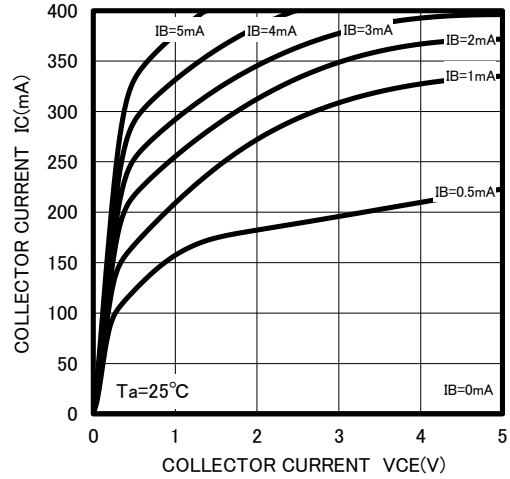
FOR GENERAL PURPOSE HIGH CURRENT DRIVE APPLICATION
SILICON NPN EPITAXIAL TYPE

TYPICAL CHARACTERISTICS

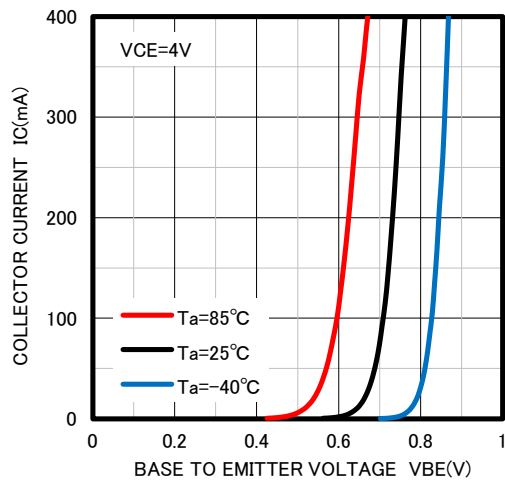
COLLECTOR DISSIPATION
VS. AMBIENT TEMPERATURE



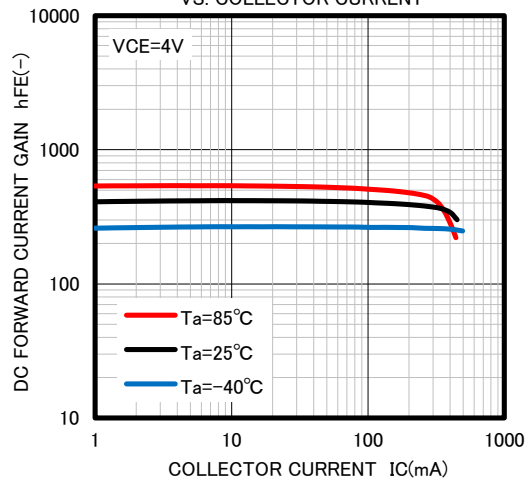
COMMON EMITTER OUTPUT



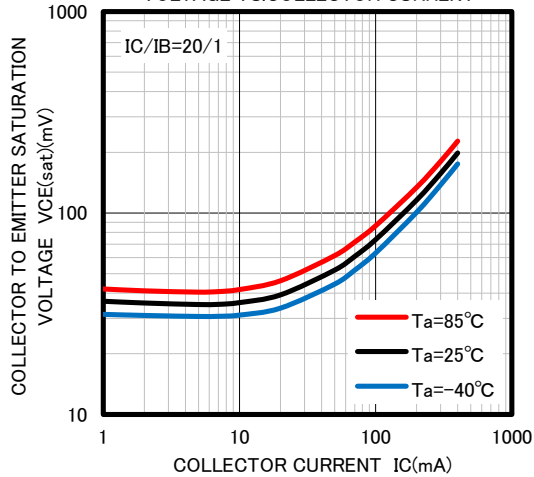
COMMON EMITTER TRANSFER



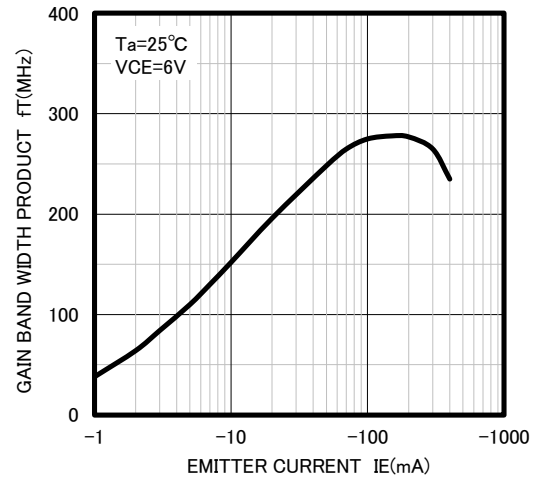
DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION
VOLTAGE VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT
VS. EMITTER CURRENT



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