

PRELIMINARY

※This datasheet is possibility of change.
Because this device is developing now.

ISC6053AU1

FOR GENERAL PURPOSE HIGH CURRENT DRIVE APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

ISC6053AU1 is a silicon NPN epitaxial type transistor
Designed with high collector current, low $V_{CE(sat)}$.

FEATURE

- High collector current

$$I_{C(MAX)}=650mA$$

- Low collector to emitter saturation voltage

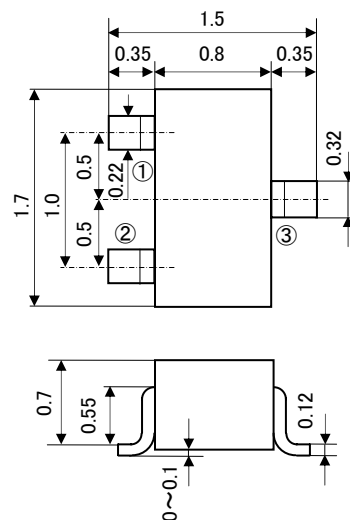
$$V_{CE(sat)} < 0.5V_{max}$$

APPLICATION

For switching application, small type motor drive application.

OUTLINE DRAWING

Unit: mm



TERMINAL CONNECTOR

①: BASE

②: EMITTER

③: COLLECTOR

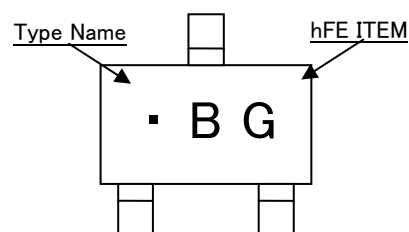
JEITA: SC-75A

JEDEC: —

MAXIMUM RATINGS ($T_a=25^{\circ}C$)

Symbol	Parameter	Ratings	Unit
V_{CEO}	Collector to Emitter voltage	20	V
V_{CBO}	Collector to Base voltage	25	V
V_{EBO}	Emitter to Base voltage	4	V
I_C	Collector current	650	mA
P_C	Collector dissipation	150	mW
T_j	Junction temperature	150	$^{\circ}C$
T_{stg}	Storage temperature	-55~150	$^{\circ}C$

MARKING



ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$)

Symbol	Parameter	Test condition	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	C to E break down voltage	$I_C=100\mu A, I_B=0$	20	—	—	V
$V_{(BR)CBO}$	C to B break down voltage	$I_C=10\mu A, I_E=0$	25	—	—	V
$V_{(BR)EBO}$	E to B break down voltage	$I_E=10\mu A, I_C=0$	4	—	—	V
I_{CBO}	Collector cut off current	$V_{CB}=25V, I_E=0$	—	—	1	μA
I_{EBO}	Emitter cut off current	$V_{EB}=2V, I_C=0$	—	—	1	μA
$h_{FE} \times$	DC forward current gain	$V_{CE}=4V, I_C=100mA$	150	—	800	—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=500mA, I_B=25mA$	—	0.3	0.5	V
f_T	Gain band width product	$V_{CE}=6V, I_E=-10mA$	—	290	—	MHz

*:It shows hFE classification in below table.

ITEM	E	F	G
hFE	150~300	250~500	400~800

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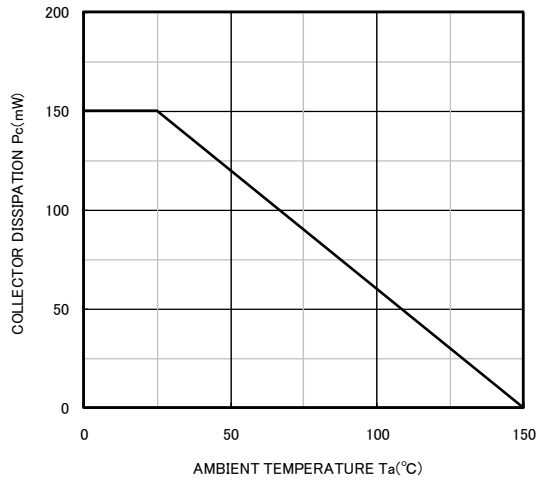
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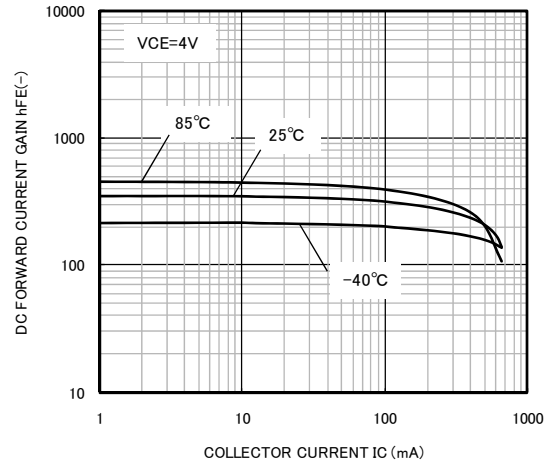
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TYPICAL CHARACTERISTICS

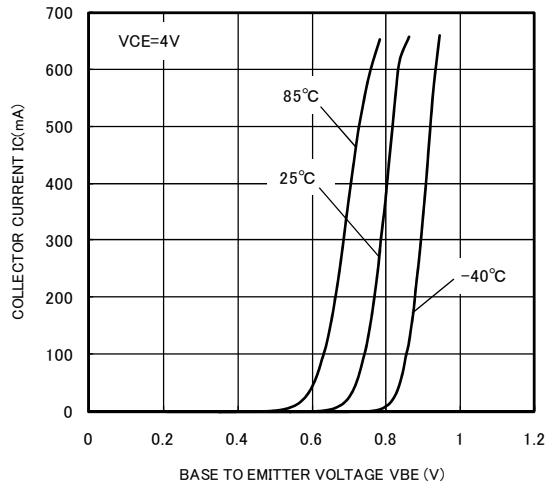
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



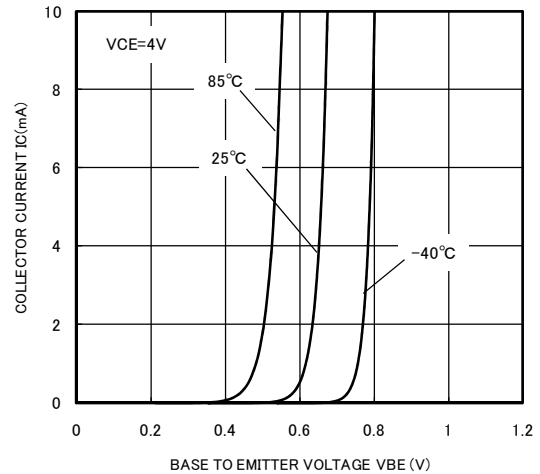
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



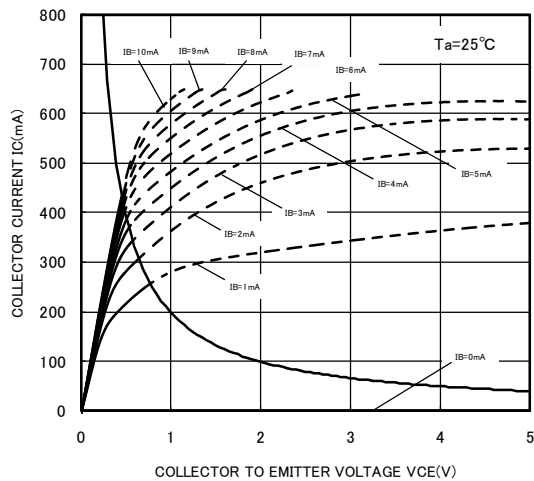
COMMON EMITTER TRANSFER(1)



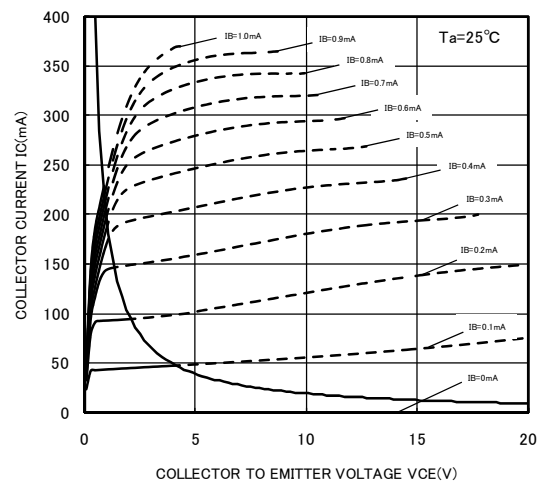
COMMON EMITTER TRANSFER(2)



COMMON EMITTER OUTPUT(1)



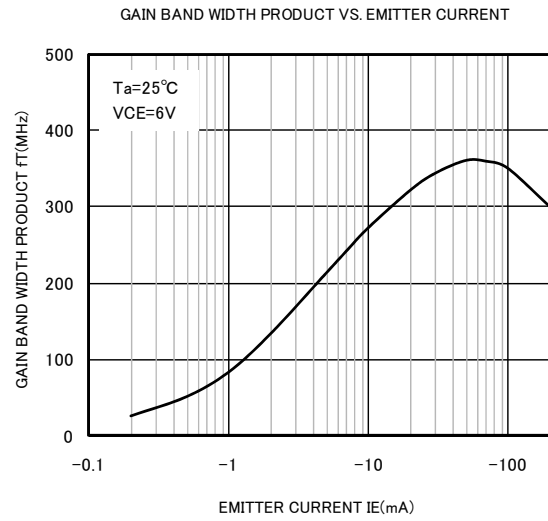
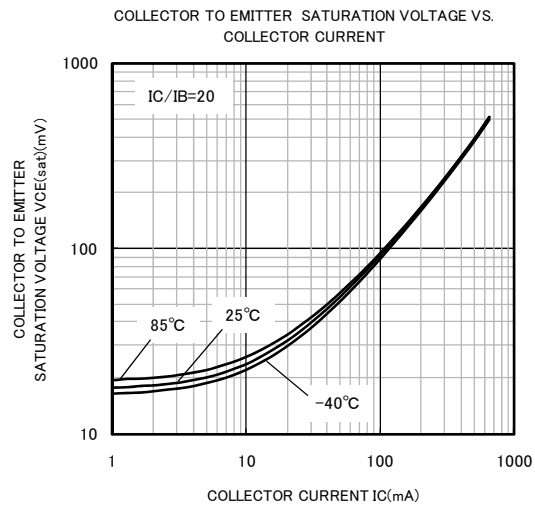
COMMON EMITTER OUTPUT(2)



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6-41 Tsukuba, Isahaya, Nagasaki, 854-0065 Japan

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