〈SMALL-SIGNAL TRANSISTOR〉

2SC6053

FOR HIGH CURRENT DRIVE APPLICATION
SILICON NPN EPITAXIAL TYPE

・DESCRIPTION

2SC6053 is a silicon NPN epitaxial type transistor designed with high collector current, low $V_{CE(sat)}$

・FEATURE

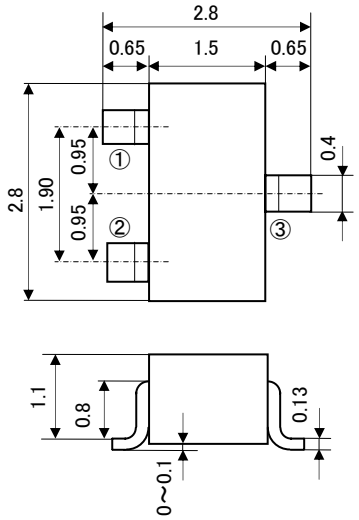
- ●High collector current ($I_{C(MAX)}$=650mA)
- ●Low collector to emitter saturation voltage ($V_{CE(sat)}$<0.5V)
- ●Super mini package for easy mounting

・APPLICATION

For switching application, small type motor drive application.

OUTLINE DRAWING

Unit : mm

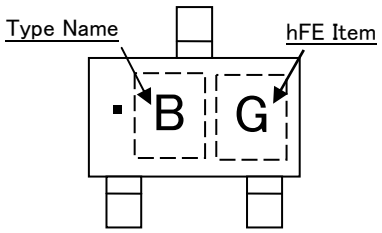


TERMINAL CONNECTOR

①:BASE
②:EMITTER
③:COLLECTOR

JEITA:SC-59
JEDEC: Similar to TO-236

MARKING



MAXIMUM RATINGS (Ta=25℃)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	25	V
V_{EBO}	Emitter to Base voltage	4	V
V_{CEO}	Collector to Emitter voltage	20	V
I_C	Collector current	650	mA
I_{CM}(*1)	Peak Collector current	1000	mA
P_C	Collector dissipation	200	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	−55 to +150	℃

(*1) Pulse Width < 10msec , single pulse

ELECTRICAL CHARACTERISTICS (Ta=25℃)

Symbol	Parameter	Test condition	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B breakdown voltage	IC=10μA、IE=0	25	—	—	V
$V_{(BR)EBO}$	E to B breakdown voltage	IE=10μA、IC=0	4	—	—	V
$V_{(BR)CEO}$	C to E breakdown voltage	IC=100μA、RBE=∞	20	—	—	V
I_{CBO}	Collector cut off current	VCB=25V、IE=0	—	—	1	μA
I_{EBO}	Emitter cut off current	VEB=2V、IC=0	—	—	1	μA
h_{FE}(*2)	DC forward current gain	VCE=4V、IC=100mA	150	—	800	—
$V_{CE(sat)}$	C to E saturation voltage	IC=500mA、IB=25mA	—	—	0.5	V
fT	Gain band width product	VCE=6V、IE=−10mA	—	290	—	MHz

(*2) It shows hFE classification in below table.

Item	E	F	G
hFE	150 to 300	250 to 500	400 to 800

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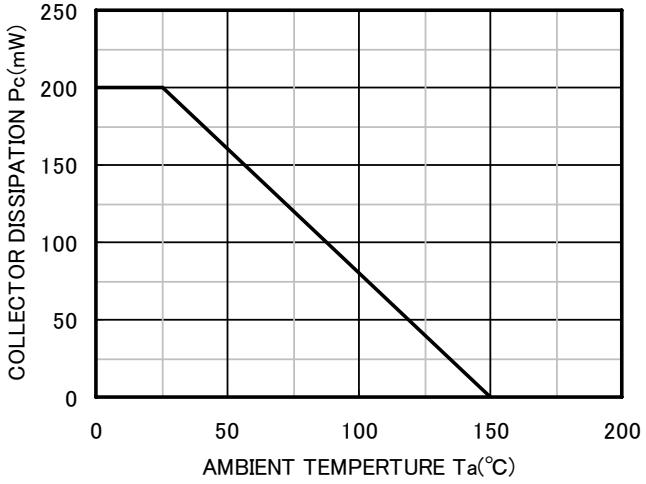
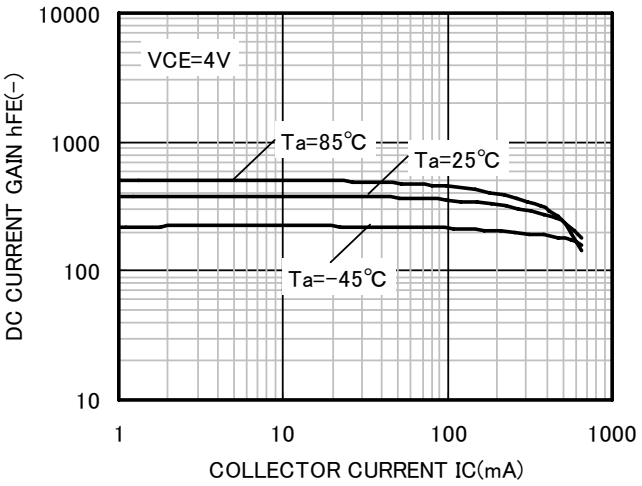
TYPICAL CHARACTERISTICS

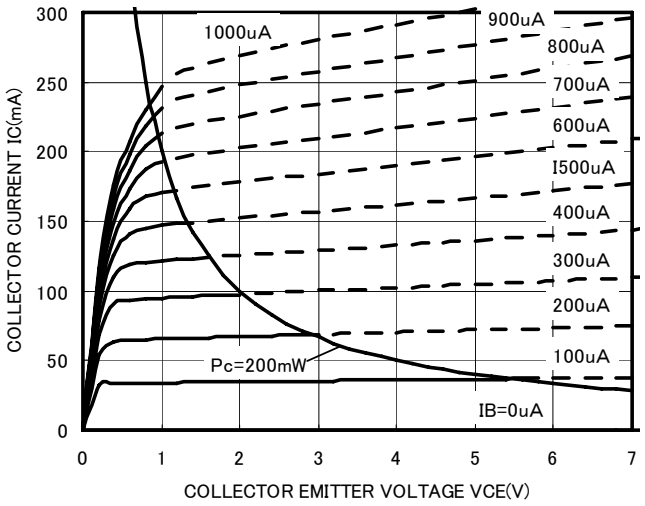
COLLECTOR DISSIPATION VS.
AMBIENT TEMPERTURE



DC CURRENT GAIN VS.
COLLECTOR CURRENT

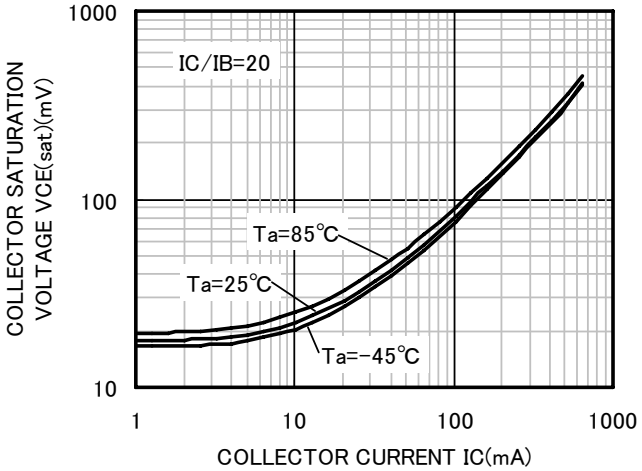


COMMON EMITTER OUTPUT

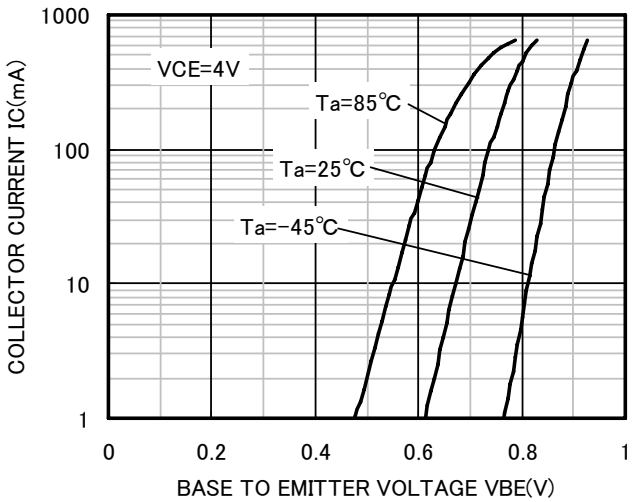


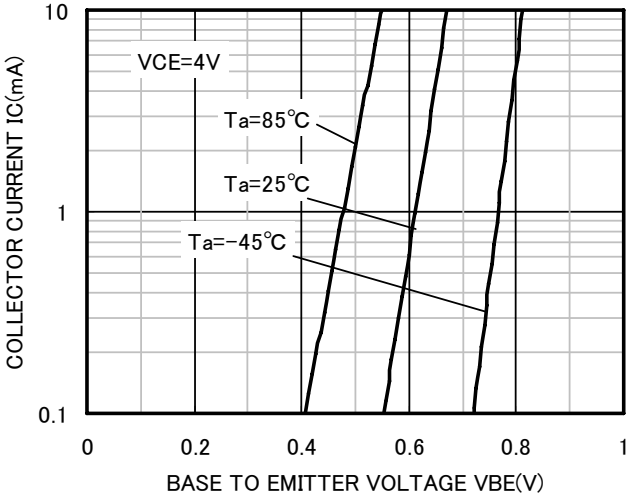
EMITTER COMMON TRANSFER(1)

COLLECTOR SATURATION VOLTAGE VS.
COLLECTOR CURRENT



EMITTER COMMON TRANSFER(2)





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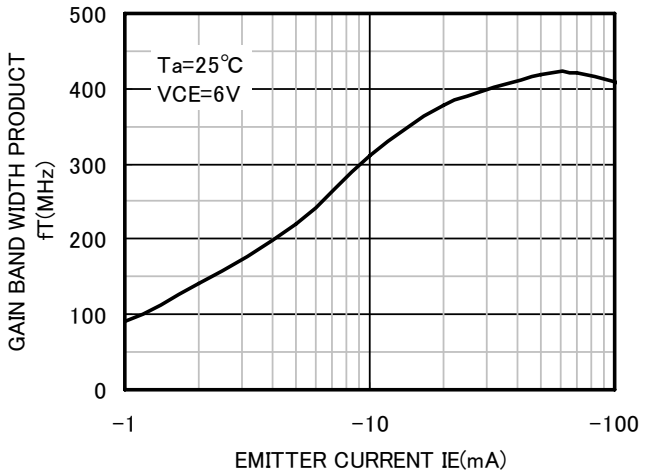
GAIN BAND WIDTH PRODUCT VS.
EMITTER CURRENT



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