〈SMALL-SIGNAL TRANSISTOR〉

2SC6053

FOR HIGH CURRENT DRIVE APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

2SC6053 is a mini package resin sealed silicon NPN epitaxial type transistor designed with high collector current, small VCE(sat).

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FEATURE

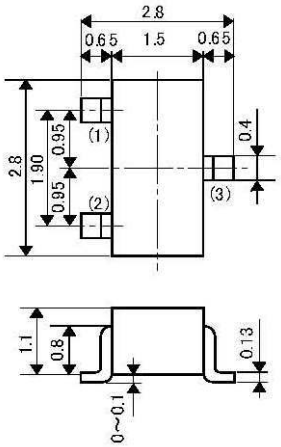
- Super mini package for easy mounting
- High collector current I_C = 650mA
- Low collector to emitter saturation voltage
  VCE(sat) = 0.5V max

APPLICATION

Small type motor drive, relay drive, power supply

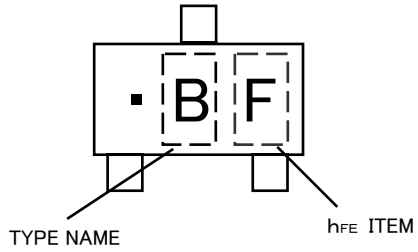
OUTLINE DRAWING

Unit : mm



TERMINAL CONNECTER
①: BASE
②: EMITTER EIAJ : SC-59
③: COLLECTOR JEDEC : TO-236 resemblance

MARKING



MAXIMUM RATINGS (Ta=25℃)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	25	V
V_{CEO}	Collector to Emitter voltage	20	V
V_{EBO}	Emitter to Base voltage	4	V
I_O	Collector current	650	mA
P_c	Collector dissipation	150	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

Parameter	Symbol	Test conditions	Limits			Unit
			Min	Typ	Max	
C to E break down voltage	$V_{(BR)CEO}$	IC=100μA、RBE=∞	20			V
C to B break down voltage	$V_{(BR)CBO}$	IC=10μA、IE=0	25			V
E to B break down voltage	$V_{(BR)EBO}$	IE=10μA、IC=0	4			V
Collector cut off current	I_{CBO}	VCB=25V、IE=0			1	μA
Emitter cut off current	I_{EBO}	VEB=2V、IC=0			1	μA
DC forward current gain	h_{FE}*	VCE=4V、IC=100mA	150		800	---
C to E saturation voltage	$V_{CE(sat)}$	IC=500mA、IB=25mA		0.3	0.5	V
Gain band width product	fT	VCE=6V、IE=−10mA		290		MHz

* : It shows h_{FE} classification in right table.

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

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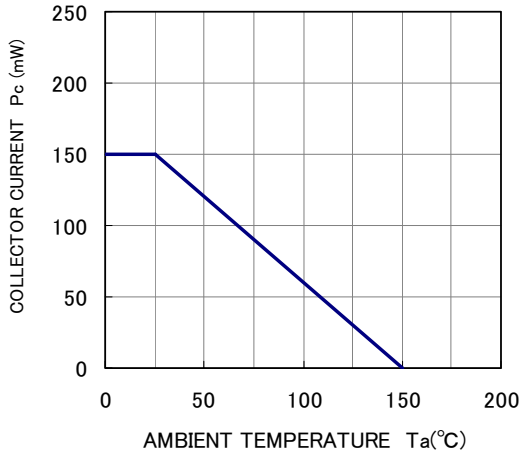
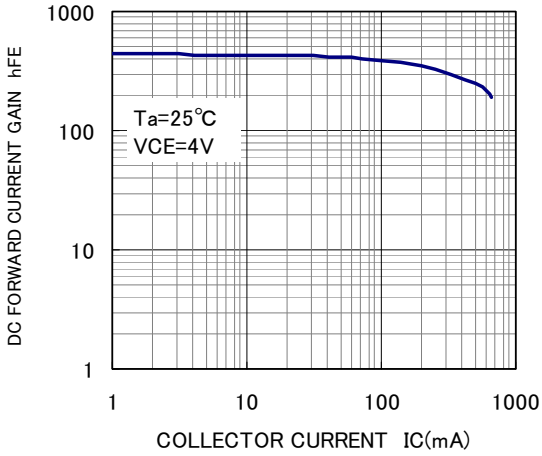
TYPICAL CHARACTERISTICS

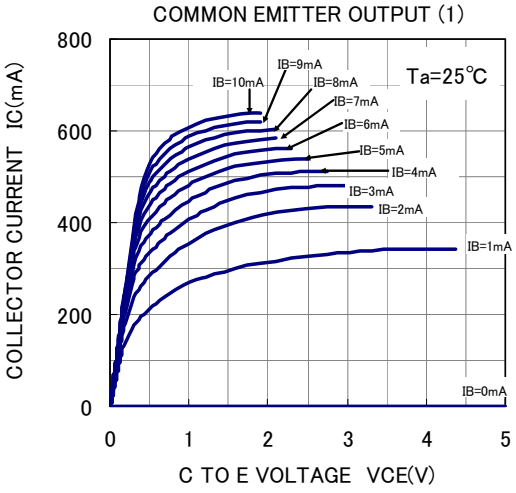
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



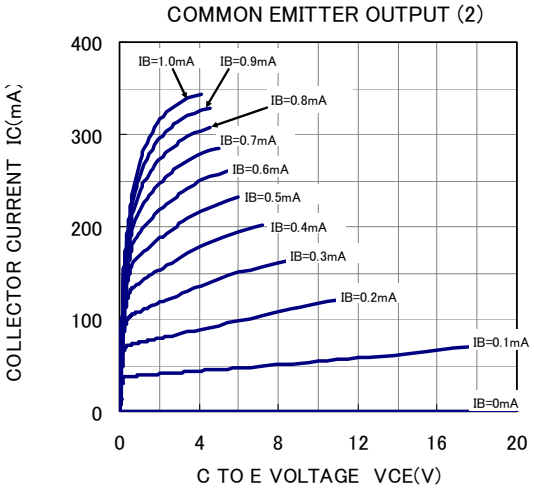
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



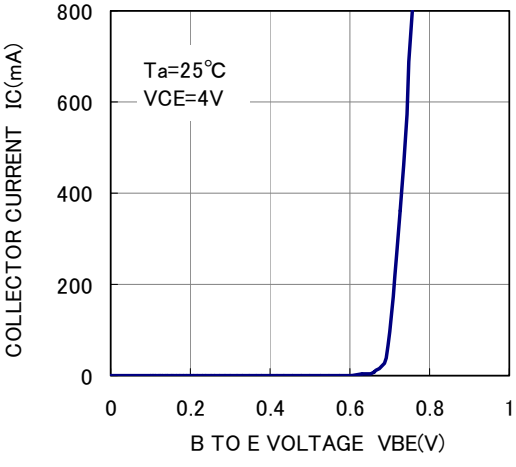
COMMON EMITTER OUTPUT (1)



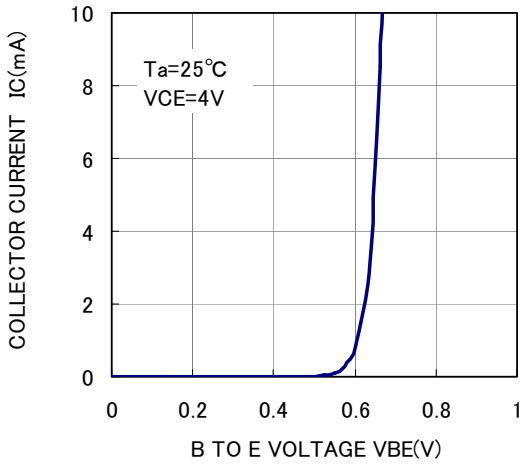
COMMON EMITTER OUTPUT (2)



COMMON EMITTER TRANSFER (1)



COMMON EMITTER TRANSFER (2)



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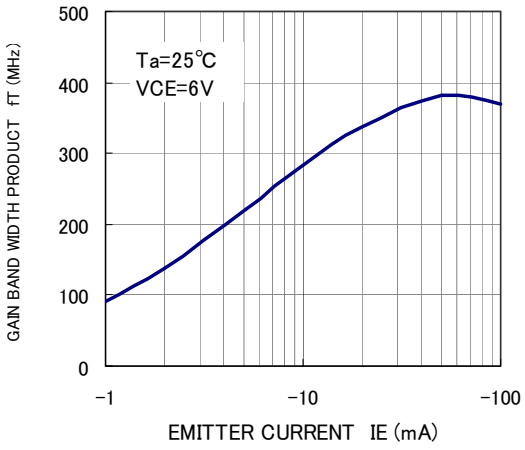
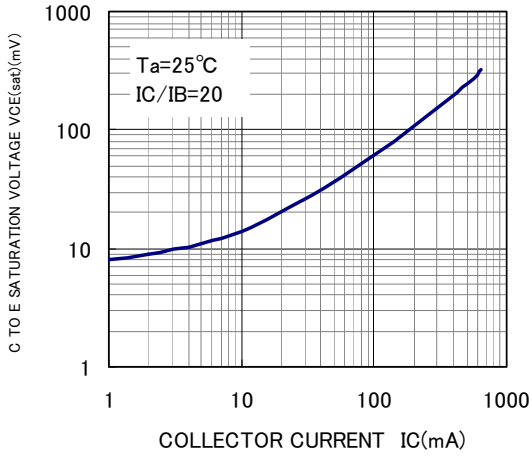
TYPICAL CHARACTERISTICS

GAIN BAND WIDTH PRODUCT VS.
EMITTER CURRENT



C TO E SATURATION VOLTAGE VS.
COLLECTOR CURRENT



ISAHAYA ELECTRONICS CORPORATION

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