2SC6120

FOR GENERAL PURPOSE HIGH CURRENT DRIVE APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

2SC6120 is a silicon NPN epitaxial type transistor designed with high collector current, low $V_{CE(sat)}$.

FEATURE

●High collector current

$I_{C(MAX)}$=600mA

●Low collector to emitter saturation voltage

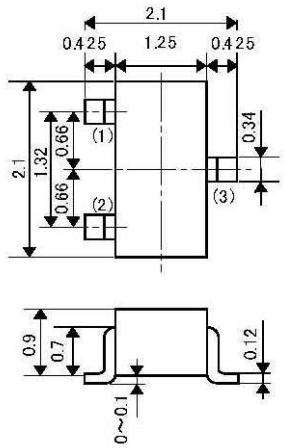
$V_{CE(sat)}$<0.3V_{max}(IC=150mA、IB=15mA)

APPLICATION

For switching application, small type motor drive application.

OUTLINE DRAWING

Unit : mm



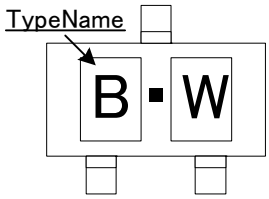
TERMINAL CONNECTOR

①:BASE JEITA:SC-70

②:EMITTER JEDEC: —

③:COLLECTOR

MARKING



MAXIMUM RATINGS(Ta.=25℃)

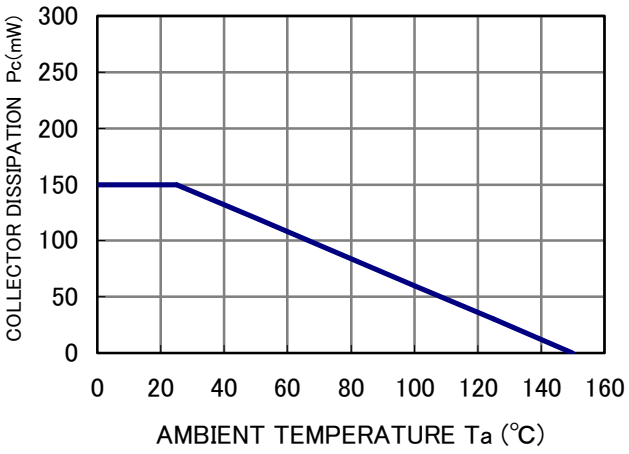
Symbol	Parameter	Ratings	Unit
V_{CEO}	Collector to Emitter voltage	40	V
V_{CBO}	Collector to Base voltage	75	V
V_{EBO}	Emitter to Base voltage	6	V
I_C	Collector current	600	mA
P_C	Collector dissipation	150	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

ELECTRICAL CHARACTERISTICS(Ta.=25℃)

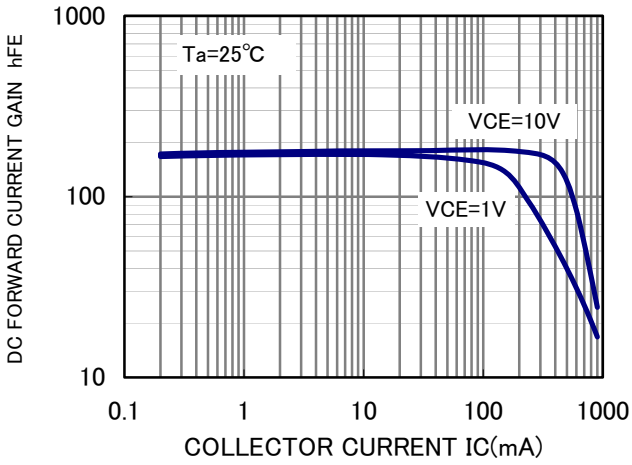
Symbol	Parameter	Test condition	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	C to E break down voltage	IC=1mA、IB=0	40			V
$V_{(BR)CBO}$	C to B break down voltage	IC=10uA、IE=0	75			V
$V_{(BR)EBO}$	E to B break down voltage	IE=10uA、IC=0	6			V
I_{CBO}	Collector cut off current	VCB=60V、IE=0			100	nA
I_{EBO}	Emitter cut off current	VEB=3V、IC=0			100	nA
h_{FE}	DC forward current gain	IC=150mA、VCE=10V	100		300	---
$V_{CE(sat)}$	C to E saturation voltage	IC=150mA、IB=15mA			0.3	V
$V_{BE(sat)}$	B to E saturation voltage	IC=150mA、IB=15mA	0.6		1.2	V
f_T	Gain band width product	IE=−20mA、VCE=20V、f=100MHz		250		MHz
C_{ob}	Collector output capacitance	VCB=10V、f=1MHz			8	pF

TYPICAL CHARACTERISTICS

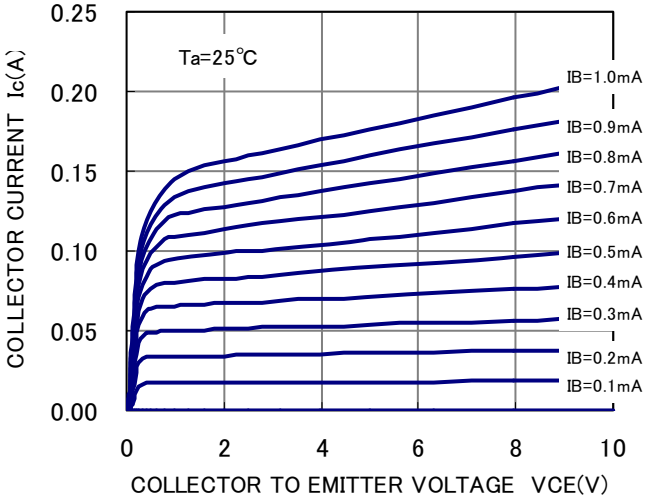
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



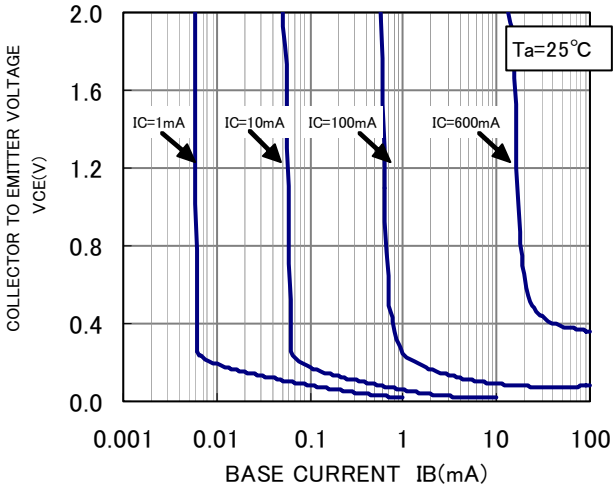
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



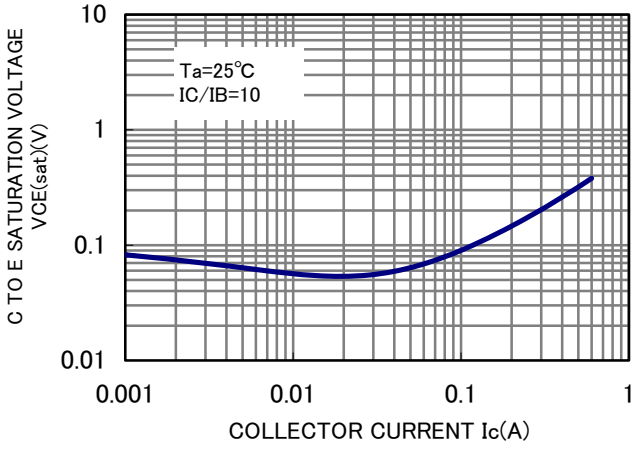
COMMON EMITTER OUTPUT



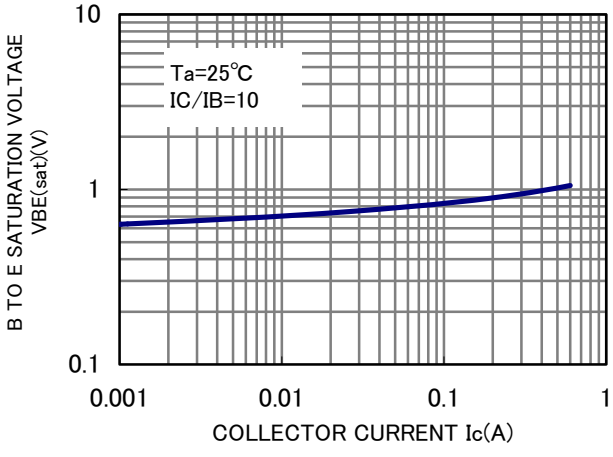
COLLECTOR TO EMITTER VOLTAGE VS. BASE CURRENT



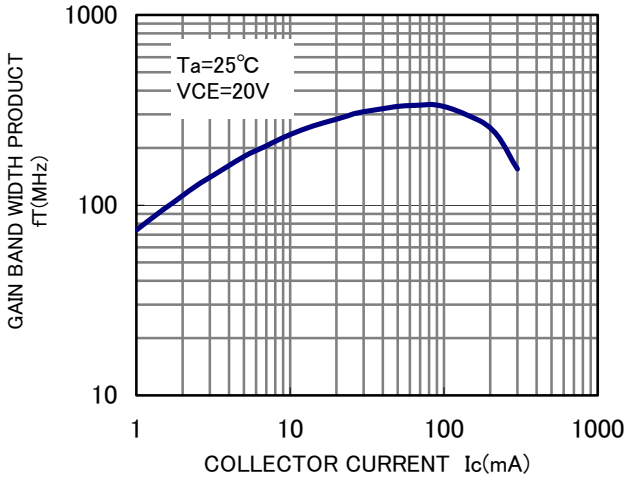
C TO E SATURATION VOLTAGE VS. COLLECTOR CURRENT



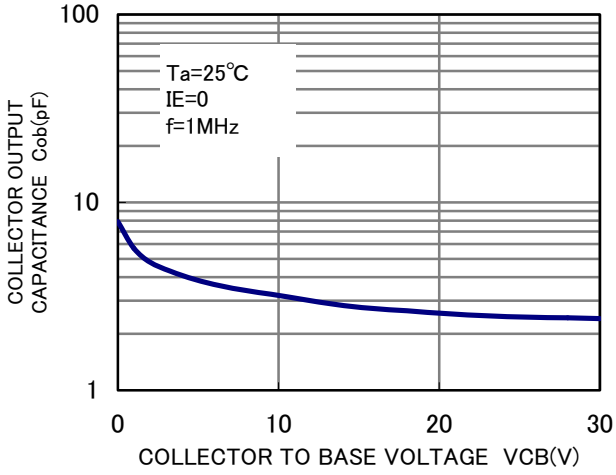
B TO E SATURATION VOLTAGE VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT VS.
COLLECTOR CURRENT



COLLECTOR OUTPUT CAPACITANCE VS.
COLLECTOR TO BASE VOLTAGE



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