

PRELIMINARY

2SC6046

FOR GENERAL PURPOSE HIGH CURRENT DRIVE APPLICATION
SILICON NPN EPITAXIAL TYPE

Notice: This is not a final specification. Some parametric limits are subject to change.

DESCRIPTION

ISAHAYA 2SC6046 is a silicon NPN epitaxial type transistor designed with high collector current, low $V_{CE(sat)}$.

FEATURE

- High collector current

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

- Low collector to emitter saturation voltage

$$V_{CE(sat)} < 0.3V_{max} (I_C=150\text{mA}, I_B=15\text{mA})$$

APPLICATION

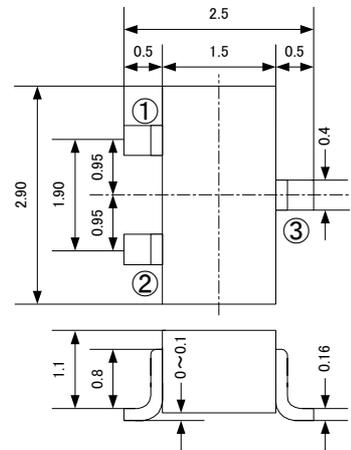
For switching application, small type motor drive application.

MAXIMUM RATINGS (Ta=25°C)

記号	項目	定格値	単位
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	200	mW
T_j	Junction temperature	150	°C
T_{stg}	Storage temperature	-55~150	°C

OUTLINE DRAWING

Unit: mm

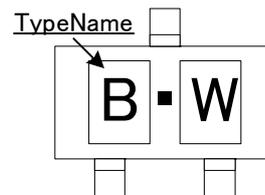


Notice: The dimension without tolerance represent central value.

TERMINAL CONNECTOR

- ①: BASE EIAJ: SC-59
- ②: EMITTER JEDEC: TO-236
- ③: COLLECTOR Resemblance

MARKING



ELECTRICAL CHARACTERISTICS (Ta=25°C)

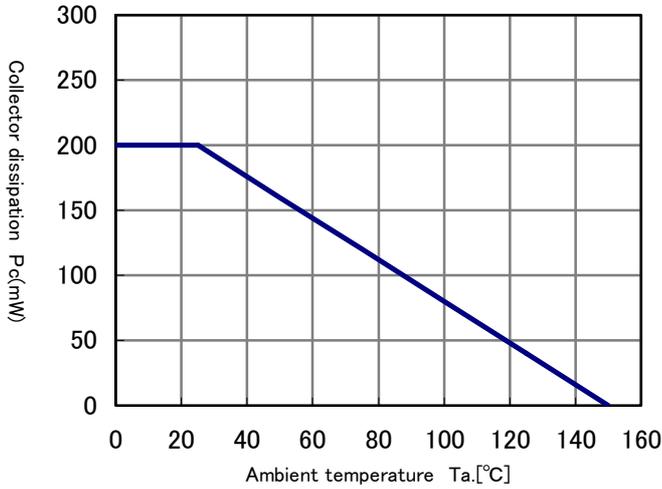
記号	項目	測定条件	特性値			単位
			最小	標準	最大	
$V_{(BR)CEO}$	C to E break down voltage	$I_C=1\text{mA}, I_B=0$	40			V
$V_{(BR)CBO}$	C to B break down voltage	$I_C=10\mu\text{A}, I_E=0$	75			V
$V_{(BR)EBO}$	E to B break down voltage	$I_E=10\mu\text{A}, I_C=0$	6			V
I_{CBO}	Collector cut off current	$V_{CB}=60\text{V}, I_E=0$			100	nA
I_{EBO}	Emitter cut off current	$V_{EB}=3\text{V}, I_C=0$			100	nA
h_{FE}	DC forward current gain	$I_C=150\text{mA}, V_{CE}=10\text{V}$	100		300	---
$V_{CE(sat)}$	C to E saturation voltage	$I_C=150\text{mA}, I_B=15\text{mA}$			0.3	V
$V_{BE(sat)}$	B to E saturation voltage	$I_C=150\text{mA}, I_B=15\text{mA}$	0.6		1.2	V
f_T	Gain band width product	$I_C=20\text{mA}, V_{CE}=20\text{V}, f=100\text{MHz}$		250		MHz
C_{ob}	Collector output capacitance	$V_{CB}=10\text{V}, f=1\text{MHz}$			8	pF

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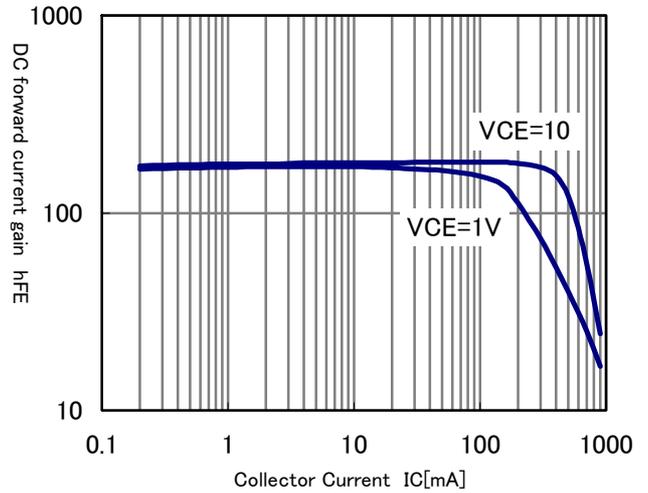
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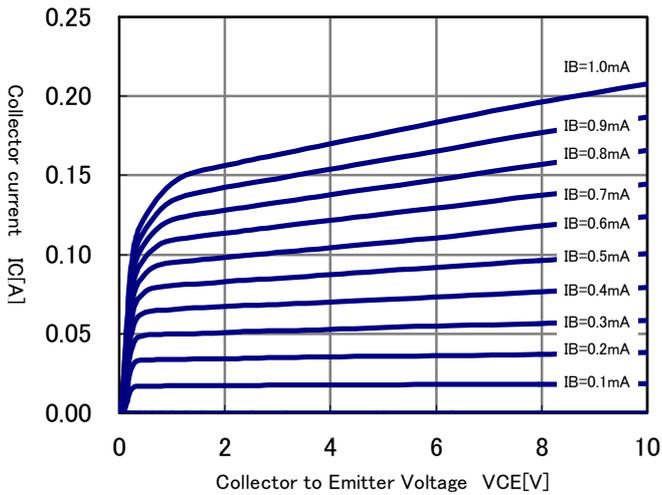
Collector dissipation-Ambient temperature



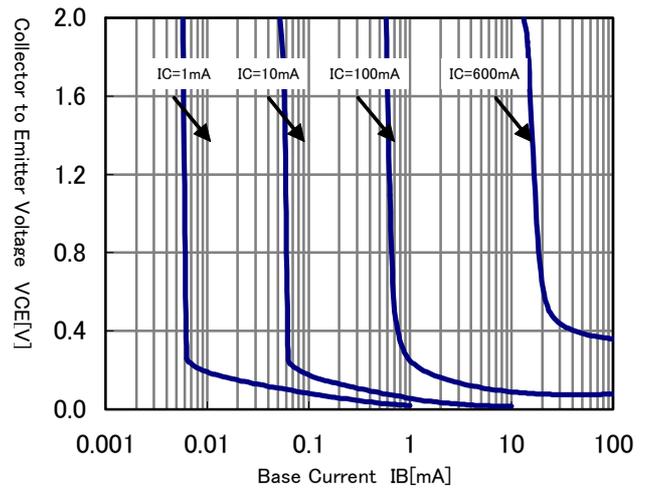
DC forward current gain-Collector Current



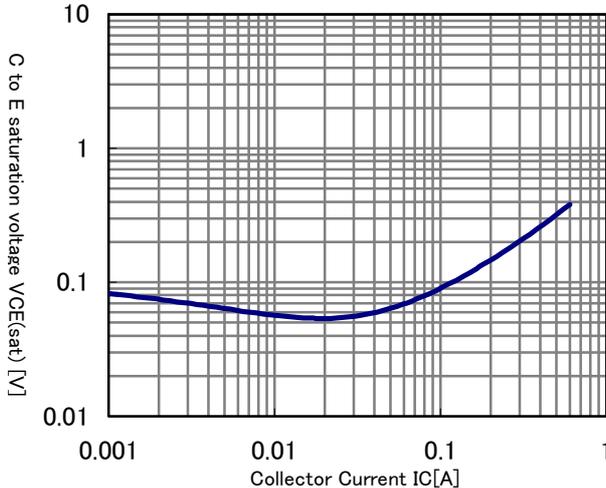
Common emitter output



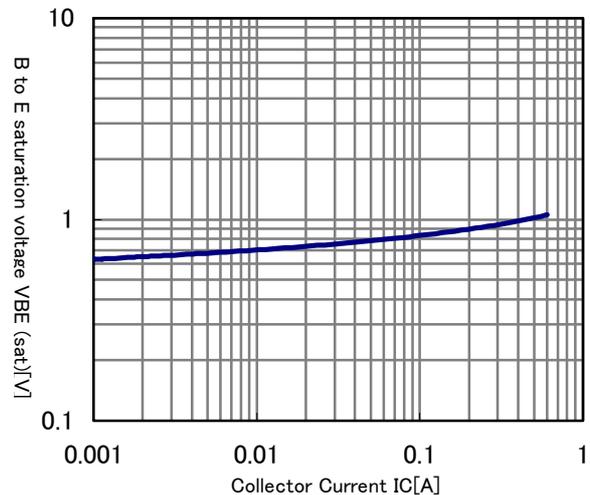
Collector to Emitter Voltage-Base Current



C to E saturation voltage-Collector current



B to E saturation voltage-Collector Current

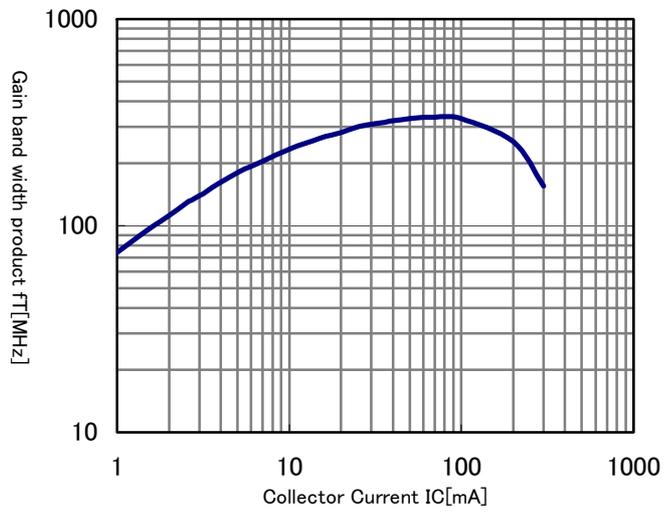


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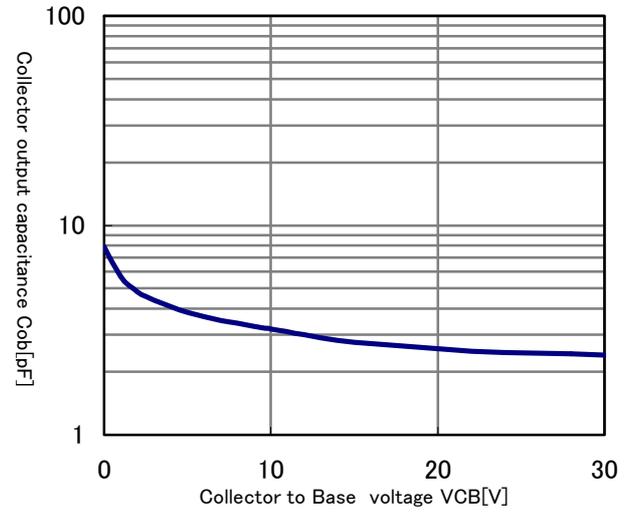
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Gain band width product-Collector Current



Collector output capacitance-C to B voltage





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