

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

FOR GENERAL PURPOSE HIGH CURRENT DRIVE APPLICATION  
SILICON PNP EPITAXIAL TYPE

DESCRIPTION

ISAHAYA 2SA2188 is a silicon PNP epitaxial type transistor designed with high collector current, low  $V_{CE(sat)}$ .

FEATURE

- High collector current  
 $I_{C(MAX)} = -650\text{mA}$
- Low collector to emitter saturation voltage  
 $V_{CE(sat)} < -0.7V_{max}$

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	-20	V
$V_{CBO}$	Collector to Base voltage	-25	V
$V_{EBO}$	Emitter to Base voltage	-4	V
$I_{CM}$	Peak collector current	-1000	mA
$I_C$	Collector current	-650	mA
$P_C$	Collector dissipation	200	mW
$T_j$	Junction temperature	150	°C
$T_{stg}$	Storage temperature	-55~150	°C

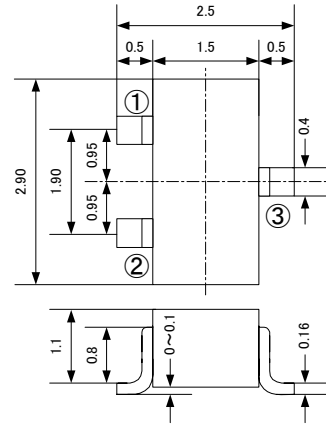
ELECTRICAL CHARACTERISTICS (Ta=25°C)

Symbol	Parameter	Test condition	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	C to E break down voltage	$I_C = -100\mu\text{A}, I_B = 0$	-20			V
$V_{(BR)CBO}$	C to B break down voltage	$I_C = -10\mu\text{A}, I_E = 0$	-25			V
$V_{(BR)EBO}$	E to B break down voltage	$I_E = -10\mu\text{A}, I_C = 0$	-4			V
$I_{CBO}$	Collector cut off current	$V_{CB} = -25\text{V}, I_E = 0$			-1	$\mu\text{A}$
$I_{EBO}$	Emitter cut off current	$V_{EB} = -2\text{V}, I_C = 0$			-1	$\mu\text{A}$
$h_{FE}^*$	DC forward current gain	$I_C = -100\text{mA}, V_{CE} = -4\text{V}$	150		800	---
$V_{CE(sat)}$	C to E saturation voltage	$I_C = -500\text{mA}, I_B = -25\text{mA}$		-0.3	-0.7	V
$f_T$	Gain band width product	$I_E = 10\text{mA}, V_{CE} = -6\text{V}, f = 100\text{MHz}$		210		MHz

\*: It shows hFE classification in below table.

OUTLINE DRAWING

Unit: mm

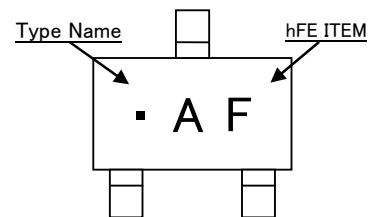


Notice: The dimension without tolerance represent central value.

TERMINAL CONNECTOR

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

MARKING

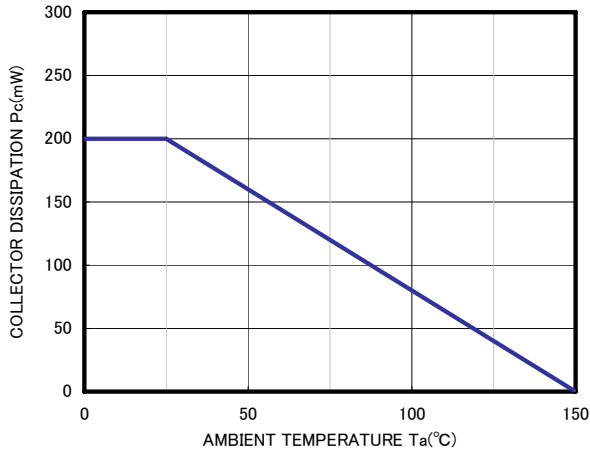


Marking	·AE	·AF	·AG
hFE	150~300	250~500	400~800

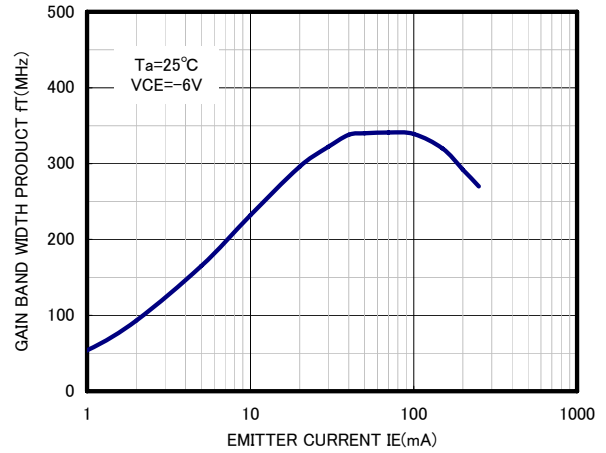
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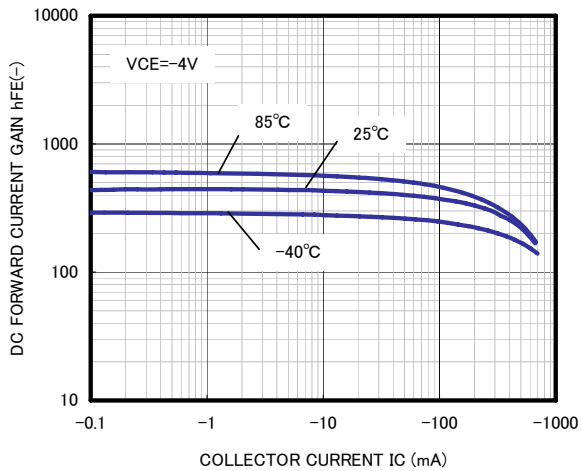
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



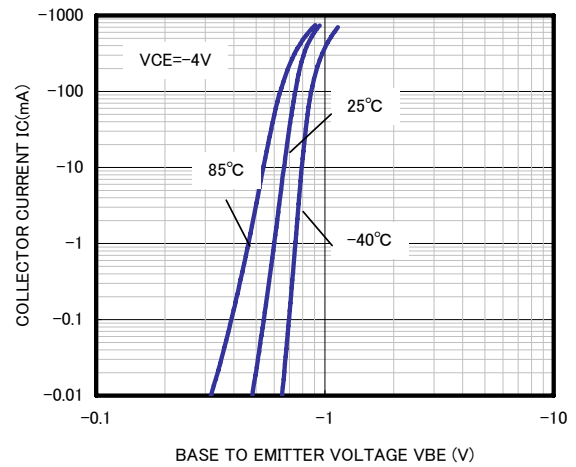
GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



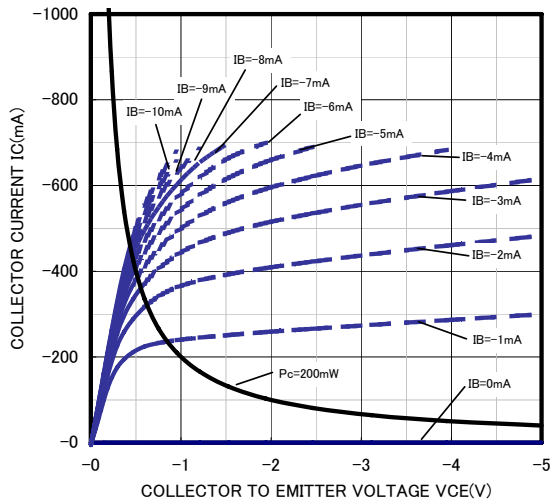
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



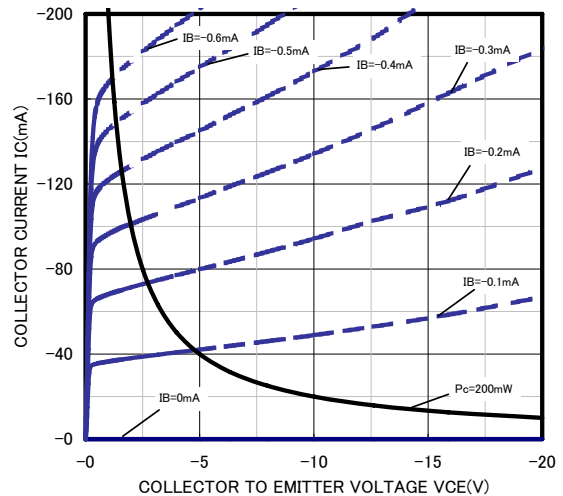
COMMON EMITTER TRANSFER



COMMON EMITTER OUTPUT(1) Ta=25°C

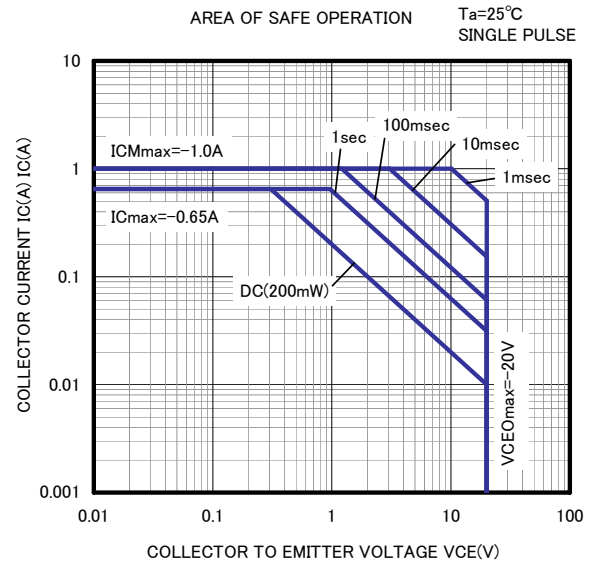
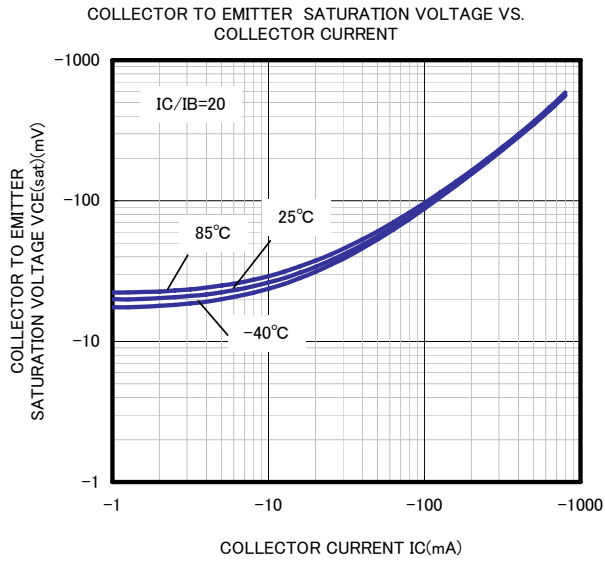


COMMON EMITTER OUTPUT(2) Ta=25°C



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