2SA2188

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

$I_{C(MAX)}$=−650mA

●Low collector to emitter saturation voltage

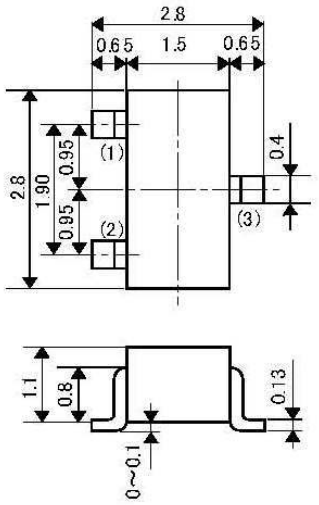
$V_{CE(sat)}$<−0.7V_{max}

APPLICATION

For switching application, small type motor drive application.

OUTLINE DRAWING

Unit : mm

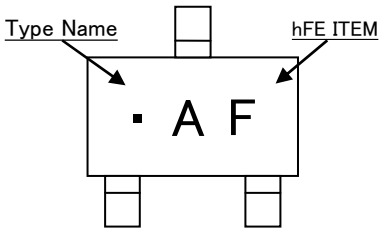


Notice: The dimension without tolerance represent central value.

TERMINAL CONNECTOR

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

MARKING



MAXIMUM RATINGS (Ta=25℃)

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	℃
T_{stg}	Storage temperature	−55～150	℃

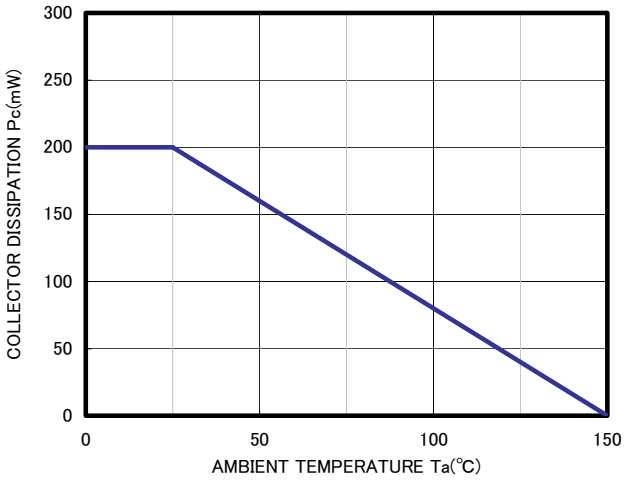
ELECTRICAL CHARACTERISTICS (Ta=25℃)

Symbol	Parameter	Test condition	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	C to E break down voltage	IC=−100uA、IB=0	−20			V
$V_{(BR)CBO}$	C to B break down voltage	IC=−10uA、IE=0	−25			V
$V_{(BR)EBO}$	E to B break down voltage	IE=−10uA、IC=0	−4			V
I_{CBO}	Collector cut off current	VCB=−25V、IE=0			−1	uA
I_{EBO}	Emitter cut off current	VEB=−2V、IC=0			−1	uA
h_{FE}*	DC forward current gain	IC=−100mA、VCE=−4V	150		800	---
$V_{CE(sat)}$	C to E saturation voltage	IC=−500mA、IB=−25mA		−0.3	−0.7	V
f_T	Gain band width product	IE=10mA、VCE=−6V、f=100MHz		210		MHz

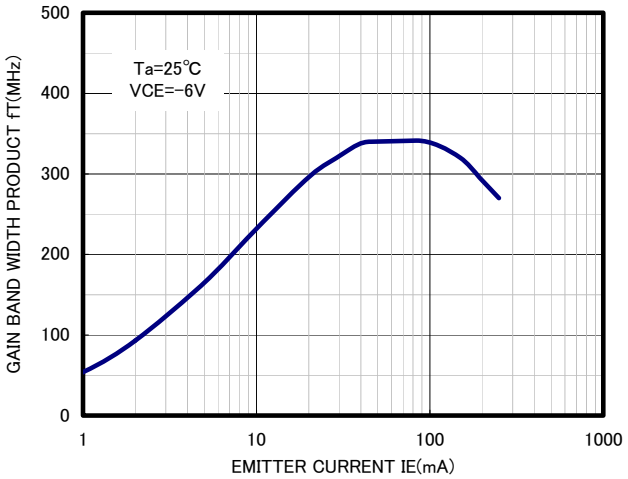
*:It shows hFE classification in below table.

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

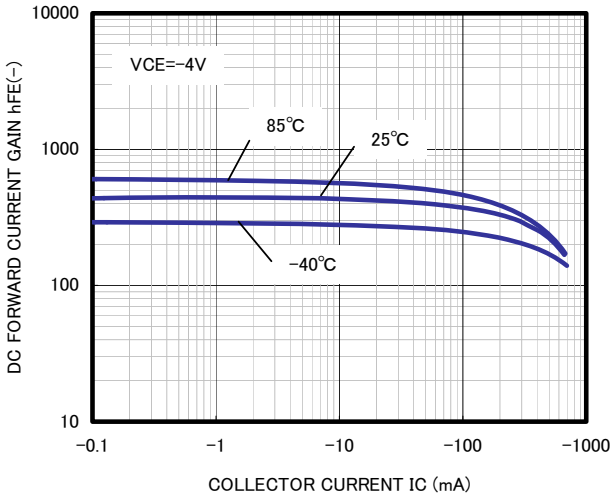
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



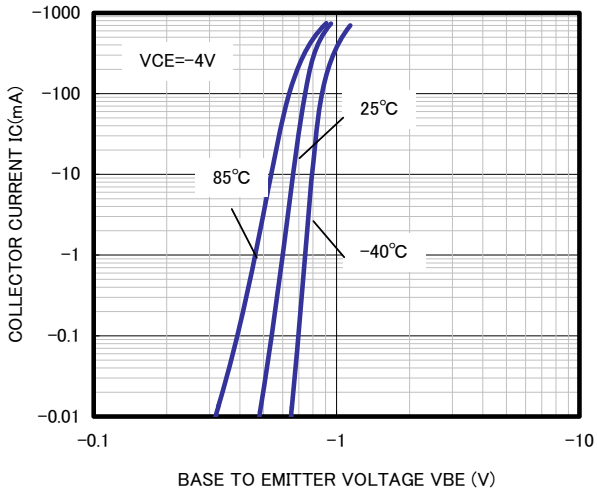
GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



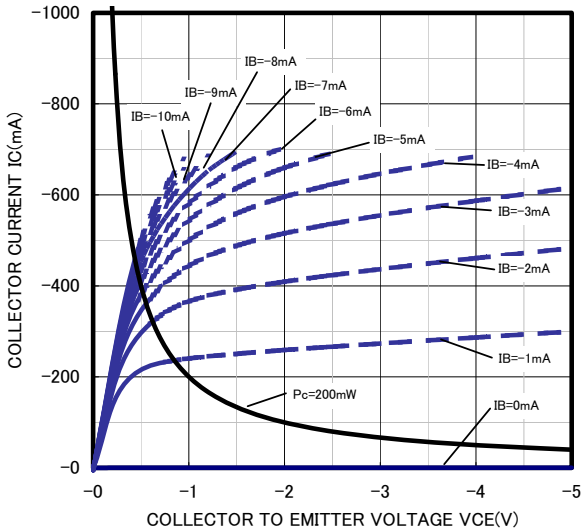
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



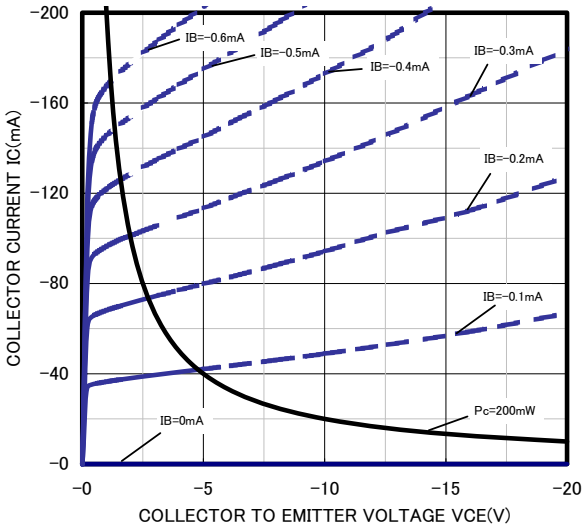
COMMON EMITTER TRANSFER



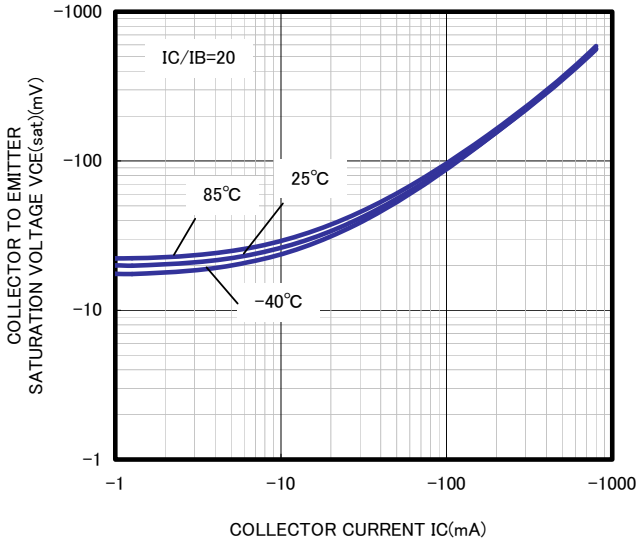
COMMON EMITTER OUTPUT(1) Ta=25℃



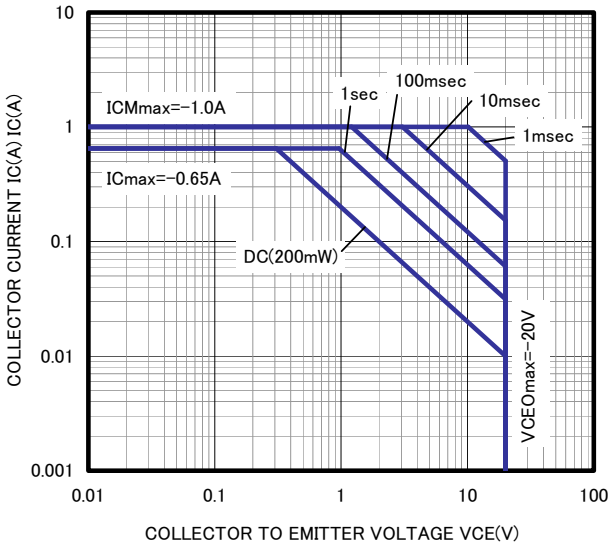
COMMON EMITTER OUTPUT(2) Ta=25℃



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



AREA OF SAFE OPERATION Ta=25℃ SINGLE PULSE



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