2SA2166-T150

FOR GENERAL PURPOSE HIGH CURRENT DRIVE APPLICATION
SILICON PNP EPITAXIAL TYPE

AEC-Q101 Compliance

DESCRIPTION

2SA2166 is a silicon PNP epitaxial type transistor designed with high collector current, low $V_{CE(sat)}$.

FEATURE

●High collector current

$I_{C(MAX)}$=−500mA

●Low collector to emitter saturation voltage

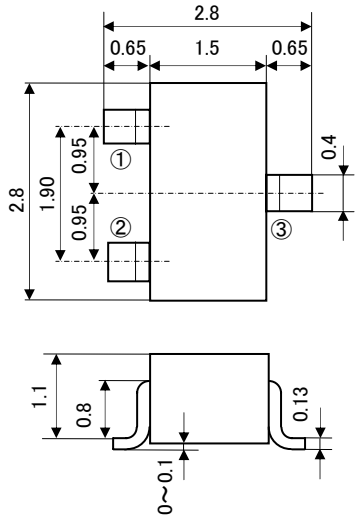
$V_{CE(sat)}$<−0.4V_{max}(IC=−150mA/IB=−15mA)

APPLICATION

For switching application, small type motor drive application.

OUTLINE DRAWING

Unit : mm



TERMINAL CONNECTOR

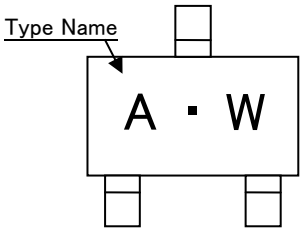
①:BASE
②:EMITTER
③:COLLECTOR

EIAJ:SC-59
JEDEC: Similar to TO-236

MAXIMUM RATINGS(Ta=25℃)

記 号	項 目	定 格 値	単 位
V_{CEO}	Collector to Emitter voltage	−60	V
V_{CBO}	Collector to Base voltage	−60	V
V_{EBO}	Emitter to Base voltage	−5	V
I_C	Collector current	−500	mA
P_C	Collector dissipation	200	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

MARKING

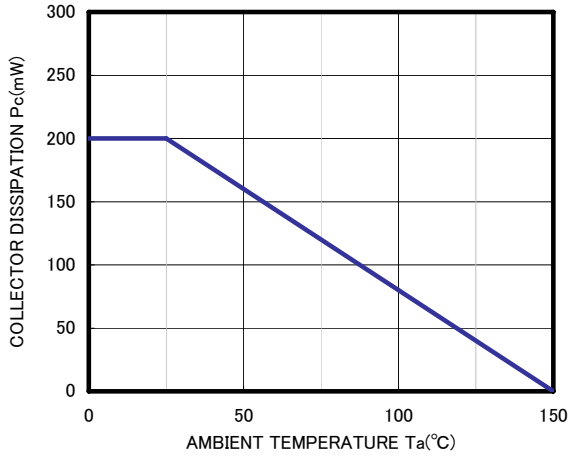


ELECTRICAL CHARACTERISTICS(Ta=25℃)

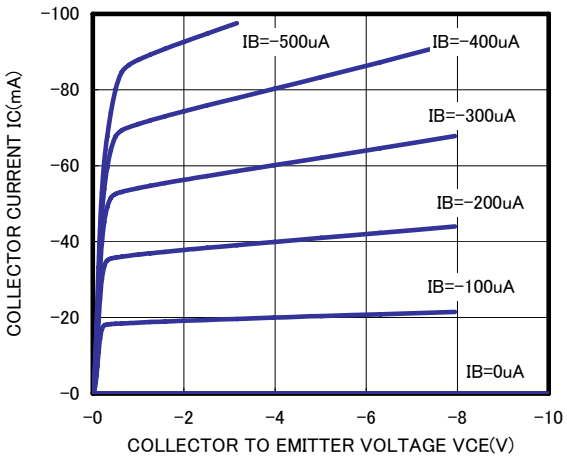
Symbol	Parameter	Test condition	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	C to E breakdown voltage	IC=−1mA、IB=0	−60	—	—	V
$V_{(BR)CBO}$	C to B breakdown voltage	IC=−10μA、IE=0	−60	—	—	V
$V_{(BR)EBO}$	E to B breakdown voltage	IE=−10μA、IC=0	−5	—	—	V
I_{CBO}	Collector cut off current	VCB=−50V、IE=0	—	—	−0.1	μA
I_{EBO}	Emitter cut off current	VEB=−3V、IC=0	—	—	−0.1	μA
h_{FE}	DC forward current gain	IC=−150mA、VCE=−10V	100	—	300	—
$V_{CE(sat)}$	C to E saturation voltage	IC=−150mA、IB=−15mA	—	—	−0.4	V
$V_{BE(sat)}$	B to E saturation voltage	IC=−150mA、IB=−15mA	—	—	−1.3	V
f_T	Gain band width product	IE=50mA、VCE=−20V、f=100MHz	200	—	—	MHz
C_{ob}	Collector output capacitance	VCB=−10V、f=1MHz	—	—	8	pF

TYPICAL CHARACTERISTICS

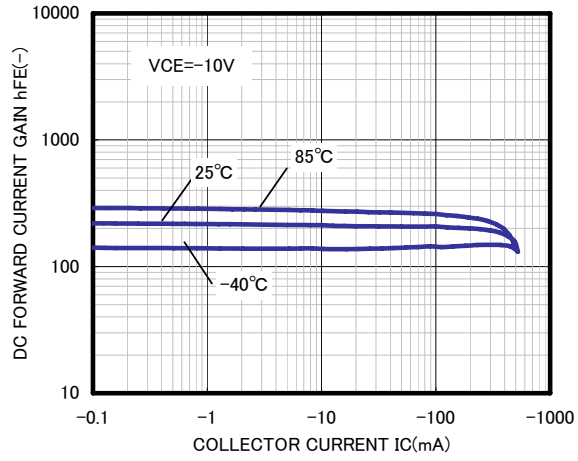
COLLECTOR DISSIPATION VS.
AMBIENT TEMPERATURE



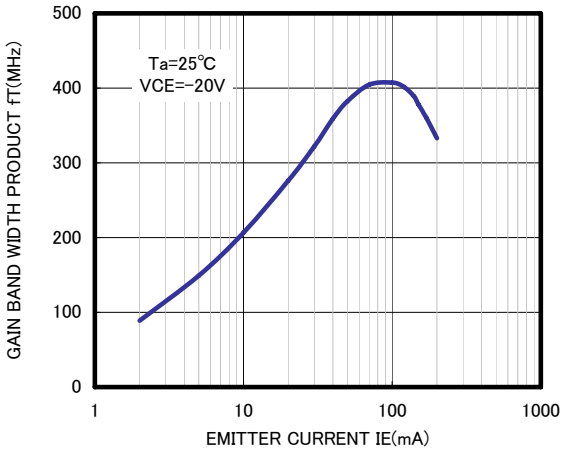
COMMON EMITTER OUTPUT Ta=25℃



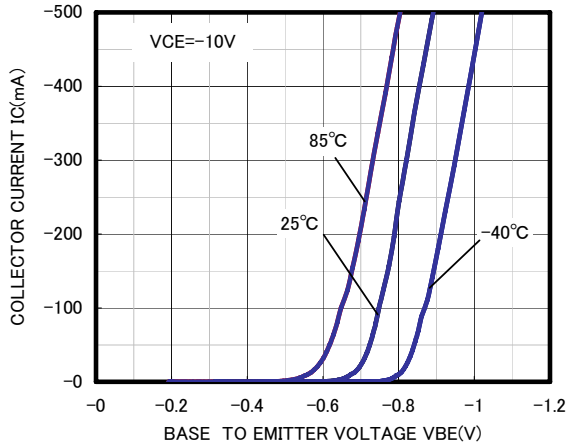
DC FORWARD CURRENT GAIN VS.
COLLECTOR CURRENT



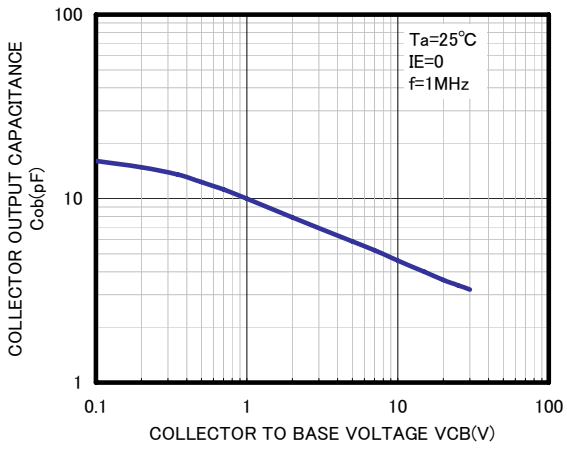
GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



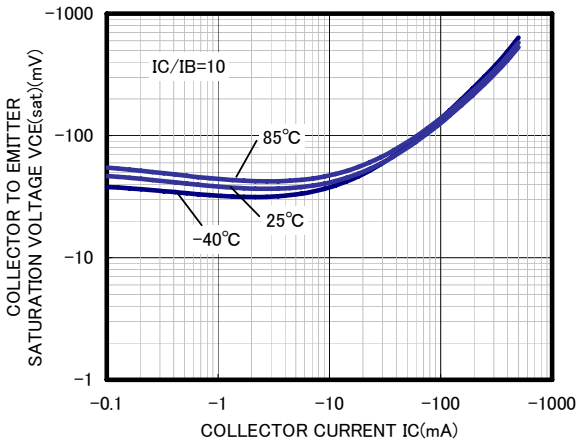
COMMON EMITTER TRANSFER



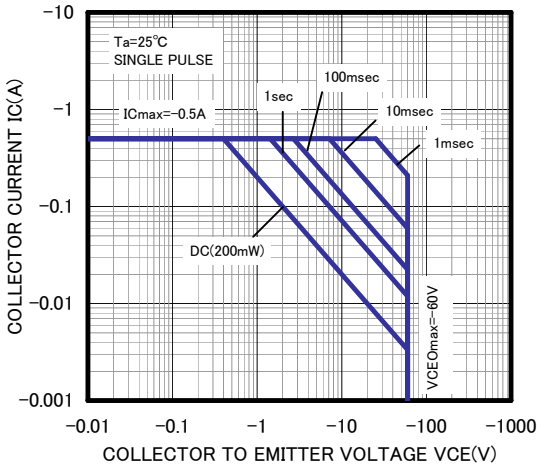
COLLECTOR OUTPUT CAPACITANCE VS.
COLLECTOR TO BASE VOLTAGE



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



AREA OF SAFE OPERATION



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