

# INC6008AP1-T150

FOR LOW FREQUENCY AMPLIFY APPLICATION  
SILICON NPN EPITAXIAL TYPE

AEC-Q101 Compliance

## DESCRIPTION

INC6008AP1 is a silicon NPN transistor.

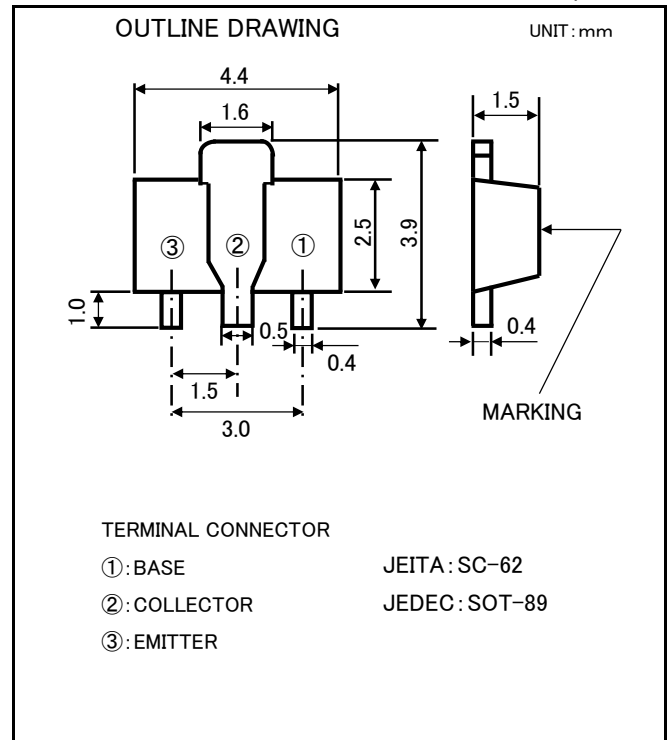
It is designed with high voltage.

## FEATURE

- Small package for easy mounting.
- High voltage  $V_{CEO}=140V$
- High collector current  $I_C=1A$
- Low  $V_{CE(sat)}$   $V_{CE(sat)} = 0.7V(MAX)$

## APPLICATION

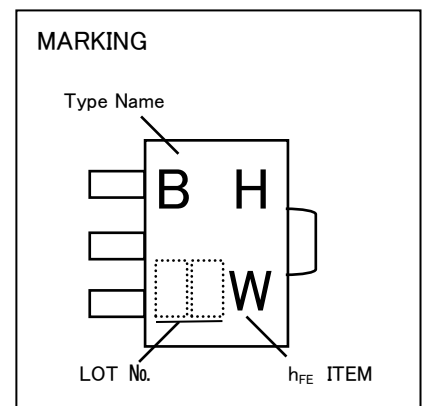
Relay drive, Power supply



## MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RATING	UNIT
$V_{CBO}$	Collector to Base voltage	160	V
$V_{EBO}$	Emitter to Base voltage	5	V
$V_{CEO}$	Collector to Emitter voltage	140	V
$I_C$	Collector current	1	A
$P_C$	Collector dissipation(Ta=25°C)	0.5	W
$P_C$	Collector dissipation(Ta=25°C) *1	2	W
$T_j$	Junction temperature	+150	°C
$T_{stg}$	Storage temperature	-55~+150	°C

\*1 Mounted on a glass ceramics board (46mm × 19mm × 0.8mm)



## ELECTRICAL CHARACTERISTICS (Ta=25°C)

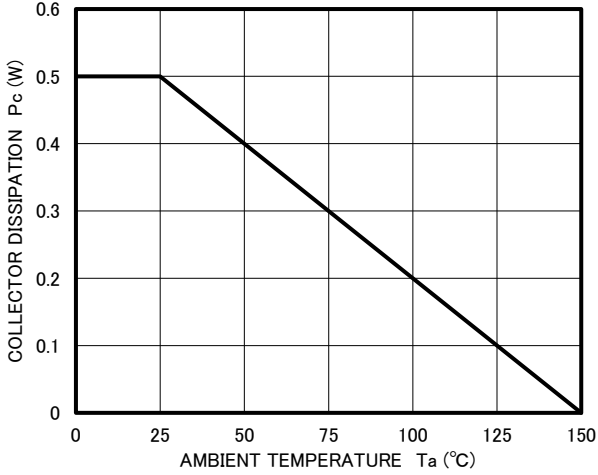
SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
$V_{(BR)CBO}$	C to B breakdown voltage	$I_C=100\mu A, I_E=0mA$	160	-	-	V
$V_{(BR)EBO}$	E to B breakdown voltage	$I_E=100\mu A, I_C=0mA$	5	-	-	V
$V_{(BR)CEO}$	C to E breakdown voltage	$I_C=10mA, R_{BE}=\infty$	140	-	-	V
$I_{CBO}$	Collector cut off current	$V_{CB}=140V, I_E=0mA$	-	-	100	nA
$I_{EBO}$	Emitter cut off current	$V_{EB}=4V, I_C=0mA$	-	-	100	nA
$h_{FE1}$	DC forward current gain1	$V_{CE}=10V, I_C=150mA$	100	-	300	-
$h_{FE2}$	DC forward current gain2	$V_{CE}=10V, I_C=1A$	-	10	-	-
$V_{CE(sat)}$	C to E saturation voltage	$I_C=150mA, I_B=15mA$	-	-	0.7	V
$V_{BE(sat)}$	B to E saturation voltage	$I_C=150mA, I_B=15mA$	-	-	1.1	V
$f_T$	Gain bandwidth product	$V_{CE}=10V, I_E=-50mA$	100	-	-	MHz
$C_{ob}$	Collector output capacitance	$V_{CB}=10V, I_E=0mA, f=1MHz$	-	-	15	pF

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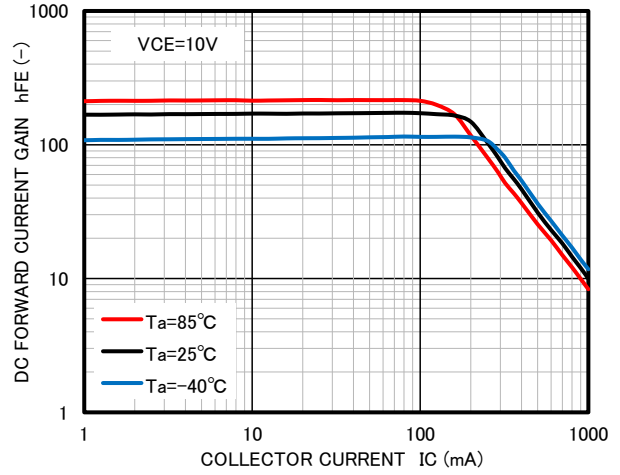
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## TYPICAL CHARACTERISTICS

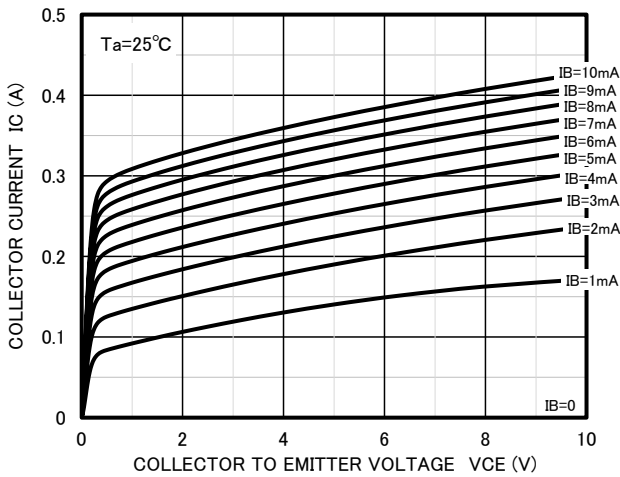
COLLECTOR DISSIPATION VS.  
AMBIENT TEMPERATURE



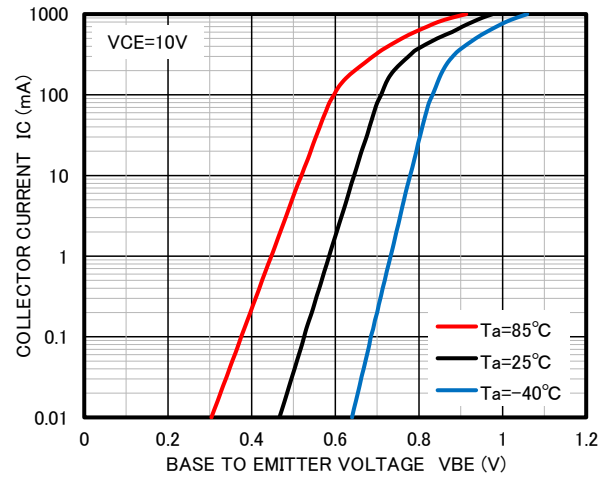
DC FORWARD CURRENT GAIN VS.  
COLLECTOR CURRENT



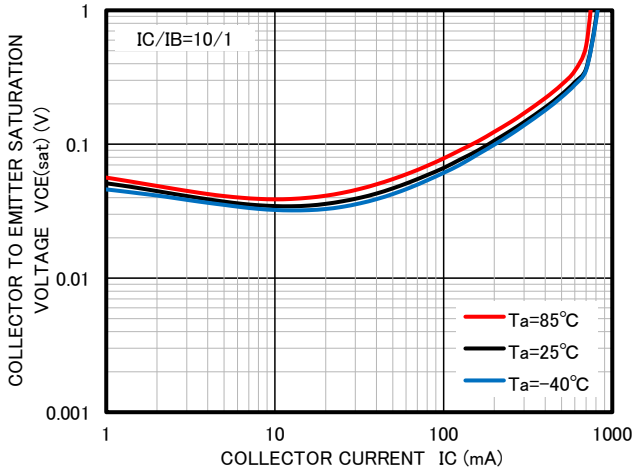
COMMON EMITTER OUTPUT



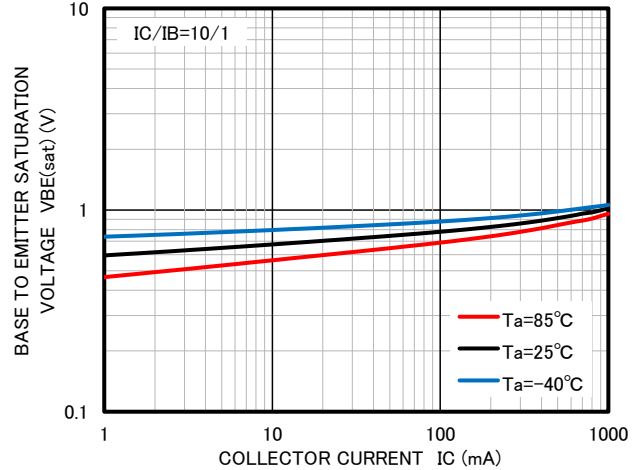
COMMON EMITTER TRANSFER



COLLECTOR TO EMITTER SATURATION  
VOLTAGE VS. COLLECTOR CURRENT



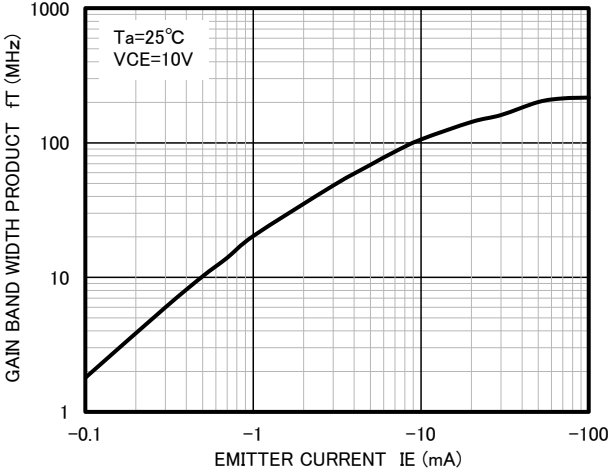
BASE TO EMITTER SATURATION  
VOLTAGE VS. COLLECTOR CURRENT



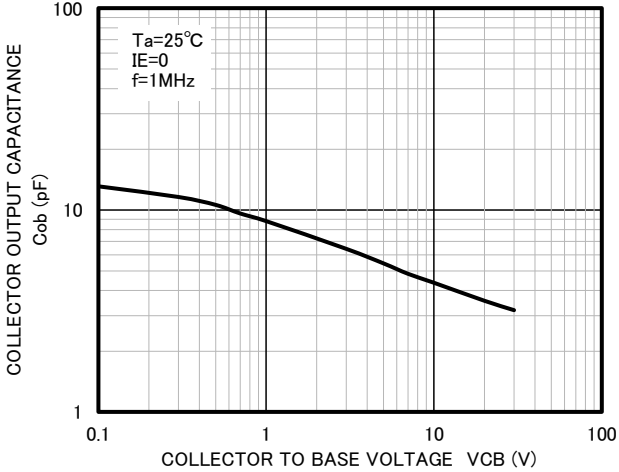
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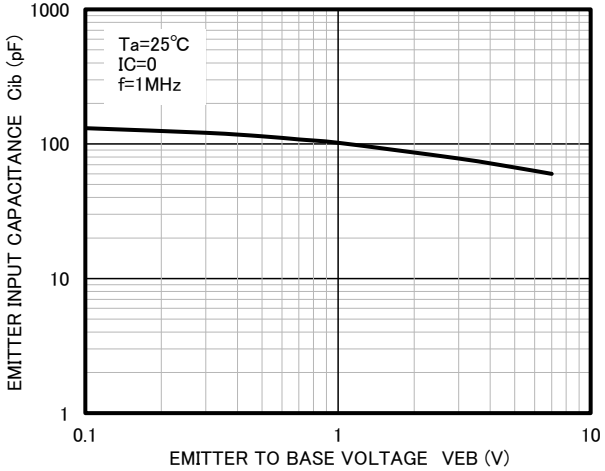
GAIN BAND WIDTH PRODUCT  
VS. EMITTER CURRENT



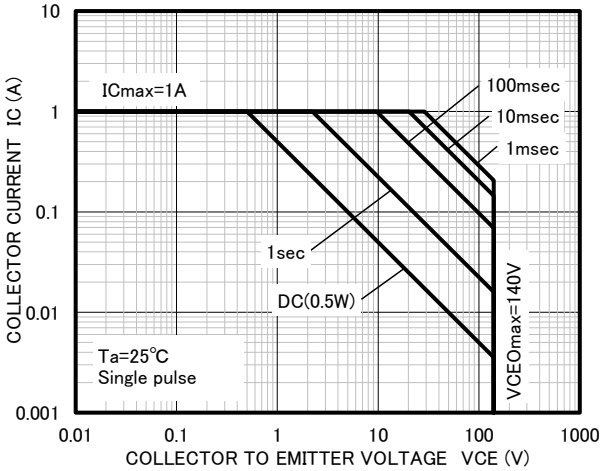
COLLECTOR OUTPUT CAPACITANCE  
VS. COLLECTOR TO BASE VOLTAGE



EMITTER INPUT CAPACITANCE  
VS. EMITTER TO BASE VOLTAGE



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