

<SMALL-SIGNAL TRANSISTOR>

ISA1989AU1

FOR LOW FREQUENCY AMPLIFY APPLICATION
SILICON PNP EPITAXIAL TYPE(ULTRA SUPER MINI TYPE)

DESCRIPTION

ISA1989AU1 is a ultra super mini package resin sealed silicon PNP epitaxial transistor, It is designed for low frequency voltage application.

FEATURE

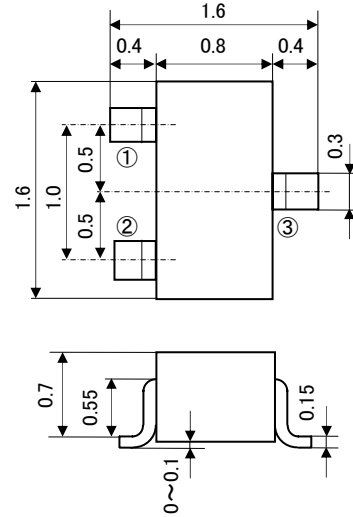
- Small collector to emitter saturation voltage.
 $V_{CE(sat)} = -0.3V \text{ max} (@ I_C = -30mA, I_B = -1.5mA)$
- Excellent linearity of DC forward gain.
- Super mini package for easy mounting

APPLICATION

For Hybrid IC, small type machine low frequency voltage Amplify application.

OUTLINE DRAWING

Unit: mm



JEITA: SC-75A

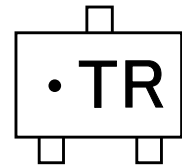
TERMINAL CONNECTER

- ①: BASE
- ②: EMITTER
- ③: COLLECTOR

MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	-50	V
V_{CEO}	Collector to Emitter voltage	-50	V
V_{EBO}	Emitter to Base voltage	-6	V
I_O	Collector current	-100	mA
P_c	Collector dissipation	150	mW
T_j	Junction temperature	+150	°C
T_{stg}	Storage temperature	-55 ~ +150	°C

MARKING



ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test conditions	Limits			Unit
			Min	Typ	Max	
C to E break down voltage	$V(BR)_{CEO}$	$I_C = -100 \mu A, R_{BE} = \infty$	-50	-	-	V
Collector cut off current	I_{CBO}	$V_{CB} = -50V, I_E = 0mA$	-	-	-0.5	μA
Emitter cut off current	I_{EBO}	$V_{EB} = -4V, I_C = 0mA$	-	-	-0.5	μA
DC forward current gain	hFE	$V_{CE} = -6V, I_C = -1mA$	120	-	560	
DC forward current gain	hFE	$V_{CE} = -6V, I_C = -0.1mA$	70	-	-	
C to E Saturation Voltage	$V_{CE(sat)}$	$I_C = -30mA, I_B = -1.5mA$	-	-	-0.3	V
Gain bandwidth product	fT	$V_{CE} = -6V, I_E = 10mA$	-	200	-	MHz
Collector output capacitance	Cob	$V_{CE} = -6V, I_E = 0, f = 1MHz$	-	2.5	-	pF

※) It shows hFE classification in below table.

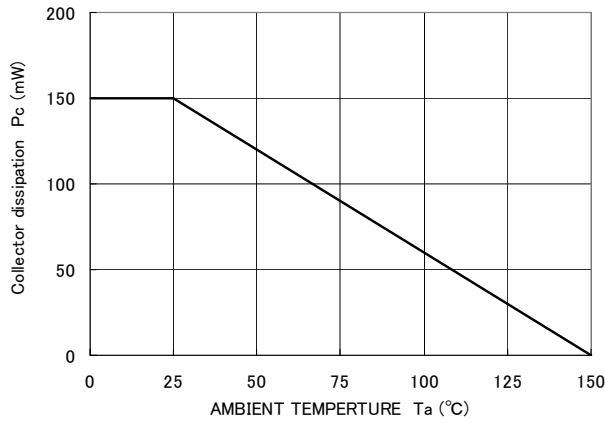
Item	Q	R	S
hFE item	120~270	180~390	270~560

ISA1989AU1

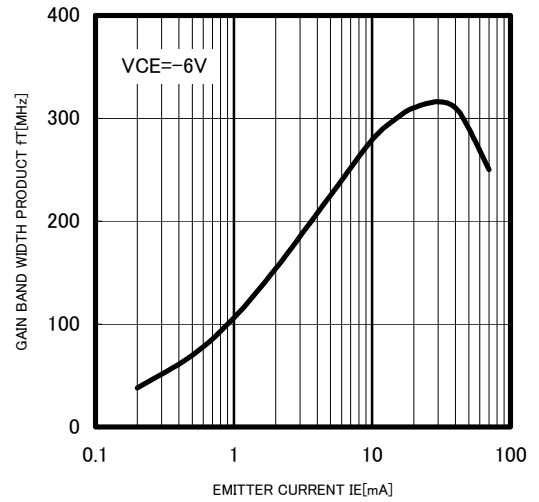
FOR LOW FREQUENCY AMPLIFY APPLICATION
SILICON PNP EPITAXIAL TYPE(ULTRA SUPER MINI TYPE)

TYPICAL CHARACTERISTICS

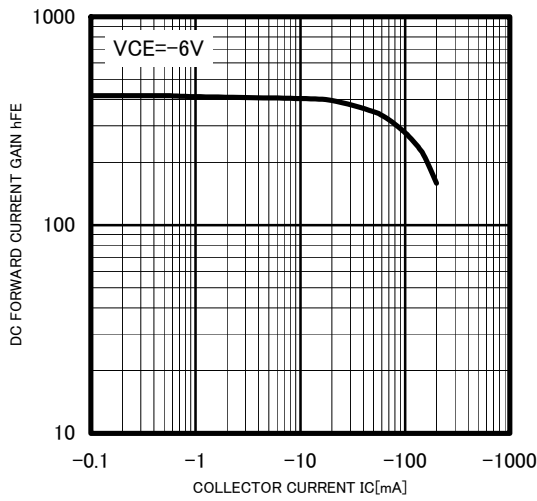
Collector dissipation — AMBIENT TEMPERATURE



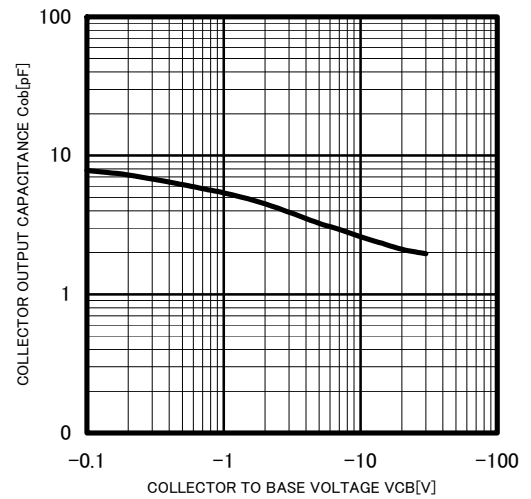
GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



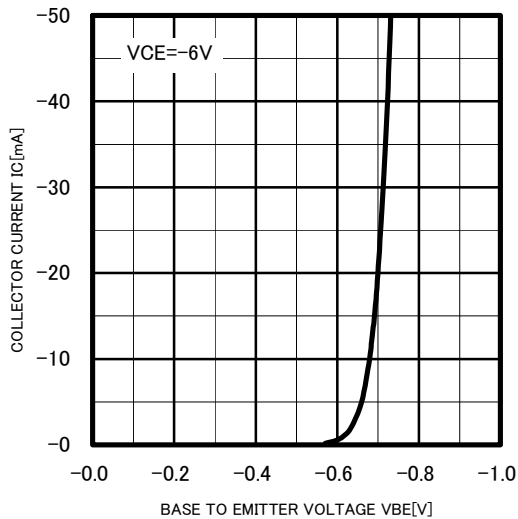
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE



COMMON EMITTER TRANSFER





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