

# RT1P137S

Transistor With Resistor  
For Switching Application  
Silicon PNP Epitaxial Type

## DESCRIPTION

RT1P137S is a one chip transistor with built-in bias resistor, NPN type is RT1N137S.

## FEATURE

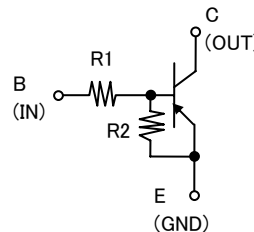
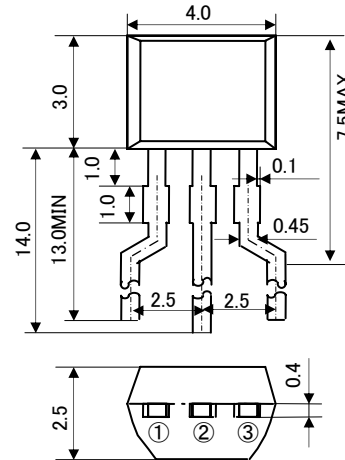
Built-in bias resistor ( $R_1=1k\Omega$ ,  $R_2=22k\Omega$ )  
High collector current ( $I_c=-1A$ )  
Low  $V_{CE(sat)}$   $V_{CE(sat)}=-0.3V$   
(@ $I_c=-300mA/I_B=-3mA$ )

## APPLICATION

Inverted circuit, Switching circuit, Interface circuit,  
Driver circuit

## OUTLINE DRAWING

Unit: mm

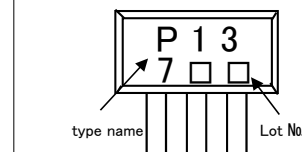


JEITA: —  
JEDEC: —  
Terminal Connector  
①: EMITTER  
②: COLLECTOR  
③: BASE

## MAXIMUM RATING ( $T_a=25^\circ C$ )

SYMBOL	PARAMETER	RATING	UNIT
$V_{CBO}$	Collector to Base voltage	-40	V
$V_{EBO}$	Emitter to Base voltage	-6	V
$V_{CEO}$	Collector to Emitter voltage	-40	V
$I_c$	Collector current	-1	A
$I_{CM}$	Peak Collector current	-2	A
$P_C$	Collector dissipation	600	mW
$T_j$	Junction temperature	150	$^\circ C$
$T_{stg}$	Storage temperature	-55 ~ +150	$^\circ C$

## MARKING



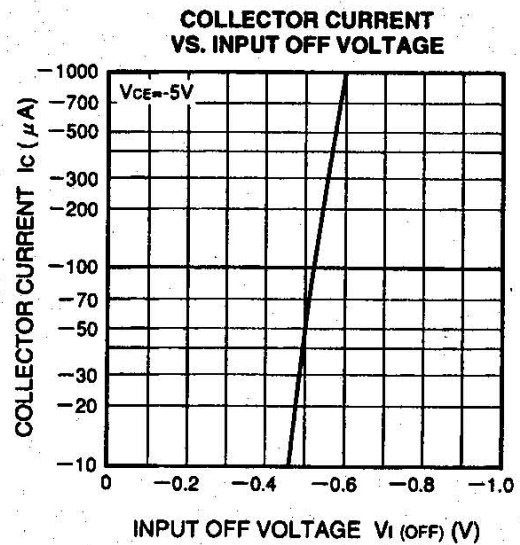
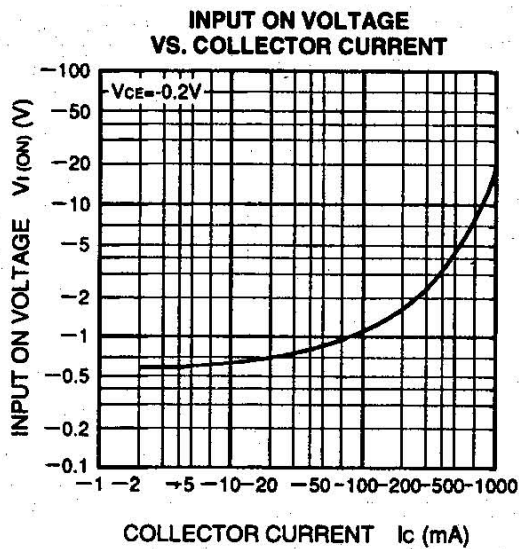
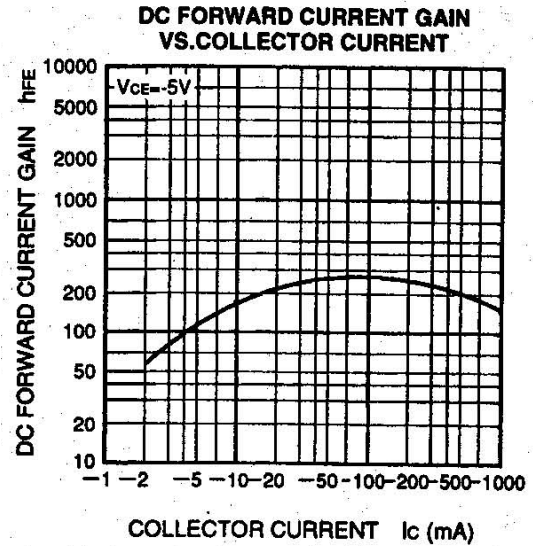
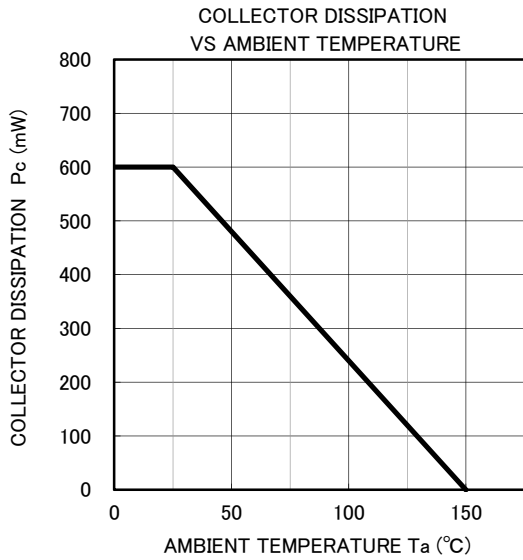
## ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	C to E breakdown voltage	$I_c=-1mA$ , $R_{BE}=\infty$	-40	—	—	V
$I_{CBO}$	Collector cut off current	$V_{CB}=-40V$ , $I_E=0$	—	—	-0.1	$\mu A$
$I_{EBO}$	Emitter cut off current	$V_{EB}=-5V$ , $I_C=0$	-168	-217	-310	$\mu A$
$h_{FE}$	DC forward current gain	$V_{CE}=-5V$ , $I_C=-100mA$	100	—	—	—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=-300mA$ , $I_B=-3mA$	—	-0.1	-0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=-0.2V$ , $I_C=-300mA$	—	-2.4	-4.0	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=-5V$ , $I_C=-100\mu A$	-0.4	-0.53	—	V
$R_1$	Input resistor	—	0.7	1.0	1.3	$k\Omega$
$R_2/R_1$	Resistor ratio	—	20	22	24	—
$f_T$	Gain band width product	$V_{CE}=-6V$ , $I_E=10mA$	—	130	—	MHz

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## TYPICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ )





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