

< SMALL-SIGNAL TRANSISTOR >

RT1P137P

TRANSISTOR WITH RESISTOR
FOR SWITCHING APPLICATION
SILICON PNP EPITAXIAL TYPE

DESCRIPTION

RT1P137P is a one chip transistor with built-in bias resistor,
NPN type is RT1N137P.

FEATURE

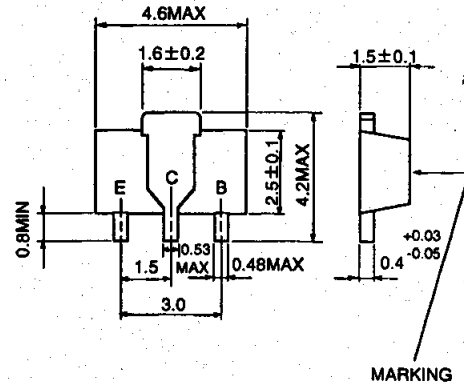
- Built-in bias resistor ($R_1=1k\Omega, R_2=22k\Omega$)
- High collector current $I_C=-1A$
- Low $V_{CE(sat)}$ $V_{CE(sat)}=-0.3V_{max}$ ($I_C=-300mA, I_B=-3mA$)
- High collector dissipation $P_C=500mW$

APPLICATION

Inverted circuit, switching circuit, interface circuit, driver circuit.

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

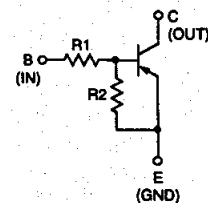
E : EMITTER
C : COLLECTOR EIAJ : -
B : BASE JEDEC : -

Note)
The dimension without tolerance represent central value.

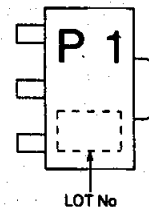
MAXIMUM RATINGS ($T_a=25^\circ C$)

Symbol	Parameter	Ratings	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($T_a=25^\circ C$)	500	mW
T_j	Junction temperature	+150	$^\circ C$
T_{stg}	Storage temperature	-55 to +150	$^\circ C$

EQUIVALENT CIRCUIT



MARKING



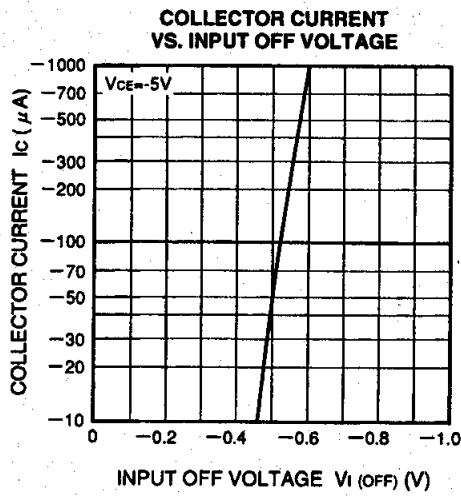
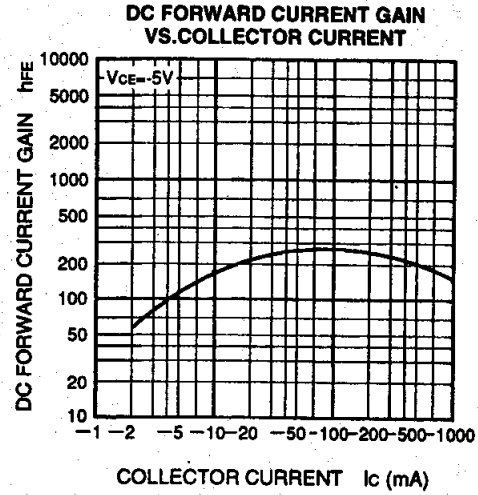
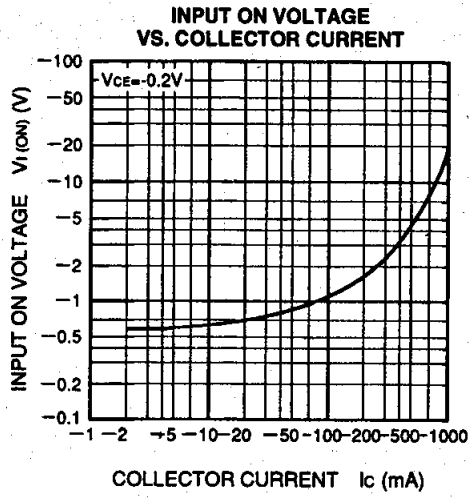
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	C to E break down voltage	$I_C=-1mA, R_{BE}=\infty$	-40			V
I_{CBO}	Collector cut off current	$V_{CB}=-40V, I_E=0$			-0.1	μA
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:	Input resistor		0.7	1.0	1.3	k Ω
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



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