

< SMALL-SIGNAL TRANSISTOR >

RT1P137L

TRANSISTOR WITH RESISTOR
FOR SWITCHING APPLICATION
SILICON PNP EPITAXIAL TYPE

DESCRIPTION

RT1P137L is a one chip transistor with built-in bias resistor,
NPN type is RT1N137L.

FEATURE

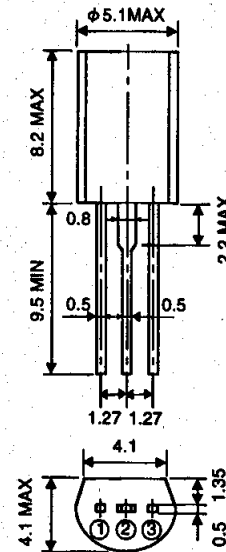
- Built-in bias resistor ($R_1=1k\Omega, R_2=22k\Omega$)
- High collector current $I_C=-1A$
- Low $V_{CE(sat)}$ $V_{CE(sat)}=-0.3V_{max}$ ($@ I_C=-300mA, I_B=-3mA$)
- High collector dissipation $P_C=900mW$

APPLICATION

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

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

- ① : EMITTER
 - ② : COLLECTOR
 - ③ : BASE
- EIAJ : —
JEDEC : —

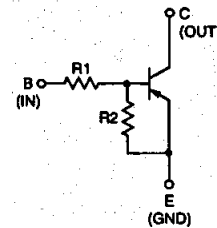
Note)

The dimension without tolerance represent central value.

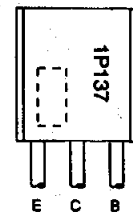
MAXIMUM RATINGS ($T_a=25^\circ C$)

Symbol	Parameter	Rated	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 ($T_a=25^\circ C$)	900	mW
T_j	Junction temperature	+150	$^\circ C$
T_{stg}	Storage temperature	-55 to +150	$^\circ C$

EQUIVALENT CIRCUIT



MARKING



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

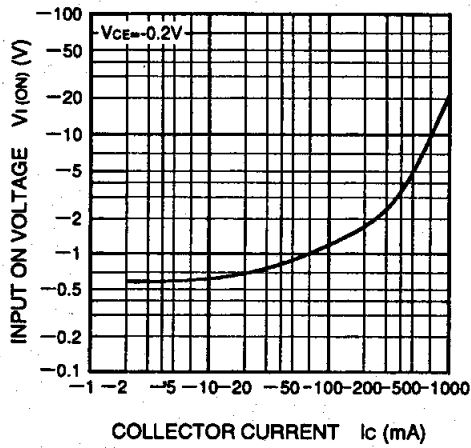
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	C to E break down voltage	$I_C=-1mA, R_{BE}=\infty$	-40			V
I_{CBO}	Collector cut off current	$V_{CB}=-40V, I_E=0$			-0.1	μA
h_{FE}	DC forward current gain	$V_{CE}=-5V, I_C=-100mA$	100			—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=-300mA, I_B=-3mA$		-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_1	Input resistor		0.7	1.0	1.3	$k\Omega$
R_2/R_1	Resistor ratio		20	22	24	—
f_r	Gain band width product	$V_{CE}=-6V, I_E=10mA$		130		MHz

RT1P137L

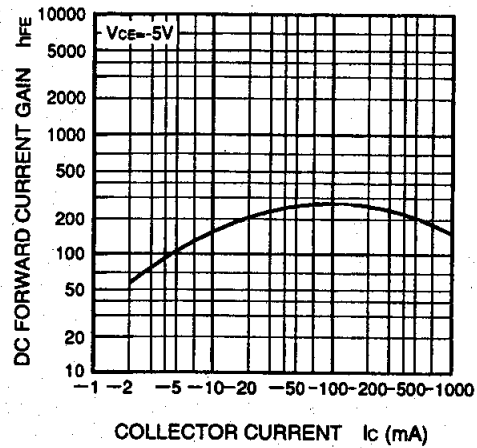
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TYPICAL CHARACTERISTICS

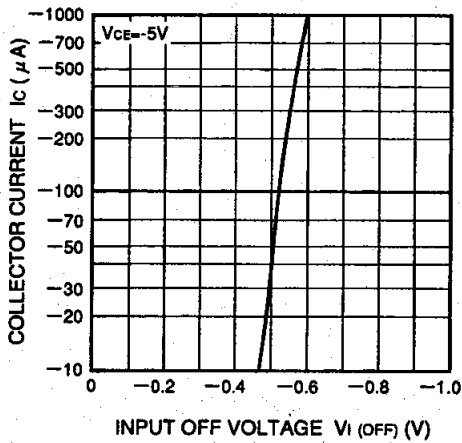
INPUT ON VOLTAGE
VS. COLLECTOR CURRENT



DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



COLLECTOR CURRENT
VS. INPUT OFF VOLTAGE



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