



START405

NPN Silicon RF Transistor

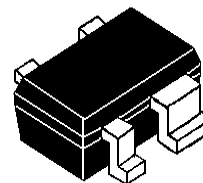
TARGET DATA

- LOW NOISE FIGURE: NFmin = 1.15dB
@ 1.8GHz, 2mA, 2V
- COMPRESSION P1dB = 5dBm
@ 1.8GHz, 5mA, 2V
- TRANSITION FREQUENCY 42GHz
- LOW CURRENT CONSUMPTION
- ULTRA MINIATURE SOT343 PACKAGE

DESCRIPTION

The START405 is a member of the START family that provide the state of the art of RF silicon process to the market. Manufactured in the third generation of ST proprietary bipolar process, it offers the best mix of gain and NF for given breakdown voltage(BVceo).

It offers performance level only archived with GaAs products before.



SOT343 (SC70)

ORDER CODE
START405

BRANDING
405

APPLICATIONS

- LNA FOR GSM/DCS, DECT, PCS, PCN, CDMA, W-CDMA
- GENERAL PURPOSE 500MHz-5GHz

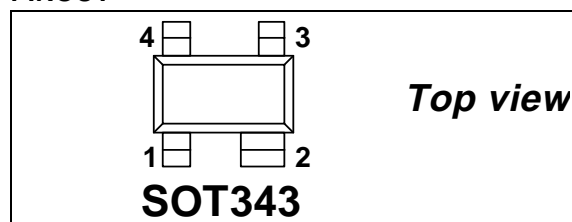
ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _{ceo}	Collector emitter voltage	4.5	V
V _{cbo}	Collector base voltage	15	V
V _{ebo}	Emitter base voltage	1.5	V
I _c	Collector current	10	mA
I _b	Base current	1	mA
P _{tot}	Total dissipation, T _s = TBD	45	mW
T _{stg}	Storage temperature	-65 to 150	°C
T _j	Max. operating junction temperature	150	°C

ABSOLUTE MAXIMUM RATINGS

R _{thjs}	Thermal Resistance Junction soldering point	MAX	≤ TBD	°C/W
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PINOUT



PIN CONNECTION

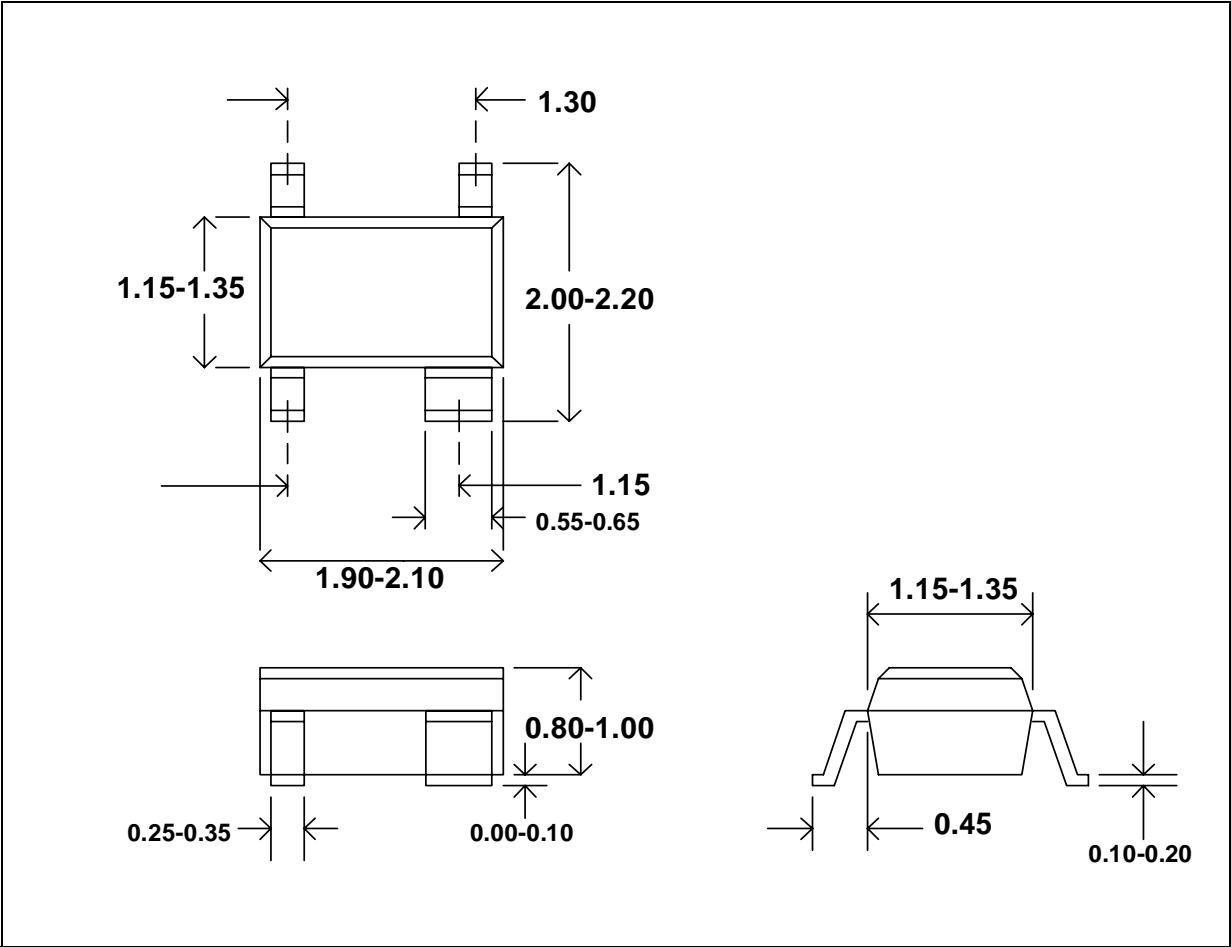
Pin No.	Description
1	BASE
3	COLLECTOR
2,4	EMITTER

ELECTRICAL CHARACTERISTICS (T_j=25 °C,unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{cbo}	Collector cutoff current	V _{cb} = 3V, I _e = 0A			150	nA
I _{ebo}	Emitter-base cutoff current	V _{eb} = 1.5V, I _c = 0A			15	μA
H _{fe}	DC current gain	I _c = 5mA, V _{ce} = 4V	50	90		
NF _{min}	Minimim noise figure	I _c = 2mA, V _{ce} = 2V, f = 1.8GHz		1.15		dB
G _a	NF _{min} associated gain	I _c = 2mA, V _{ce} = 2V, f = 1.8GHz		19		dB
S ₂₁ ²	Insertion power gain	I _c = 5mA, V _{ce} = 2V, f = 1.8GHz		17		dB
G _{ms} ⁽¹⁾	Maximum stable gain	I _c = 5mA, V _{ce} = 2V, f = 1.8GHz		22		dB
P _{-1dB}	1dB compression point	I _c = 5mA, V _{ce} = 2V, f = 1.8GHz		5		dBm
OIP3	Ouput third order intercept point	I _c = 5mA, V _{ce} = 2V, f = 1.8GHz		15		dBm

Note(1): G_{ms} = | S₂₁ / S₁₂ |

PACKAGE DIMENSIONS SOT343 (SC-70 4 leads)



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