



START450

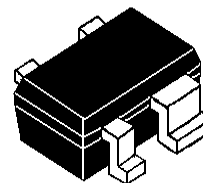
NPN Silicon RF Transistor

TARGET DATA

- COMPRESSION POINT P1dB=19dBm @ 1.8GHz
- MAXIMUM STABLE GAIN G_{ms} =14dB @ 1.8GHz
- TRANSITION FREQUENCY 42GHz
- HIGH LINEARITY
- ULTRA MINIATURE SOT343(SC70) PACKAGE

DESCRIPTION

The START450 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
START450

BRANDING
450

APPLICATIONS

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

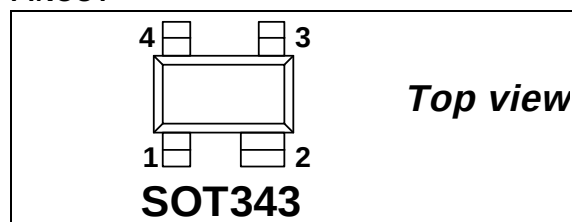
ABSOLUTE MAXIMUM RATINGS

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	100	mA
I_b	Base current	10	mA
P_{tot}	Total dissipation, $T_s = TBD$	450	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

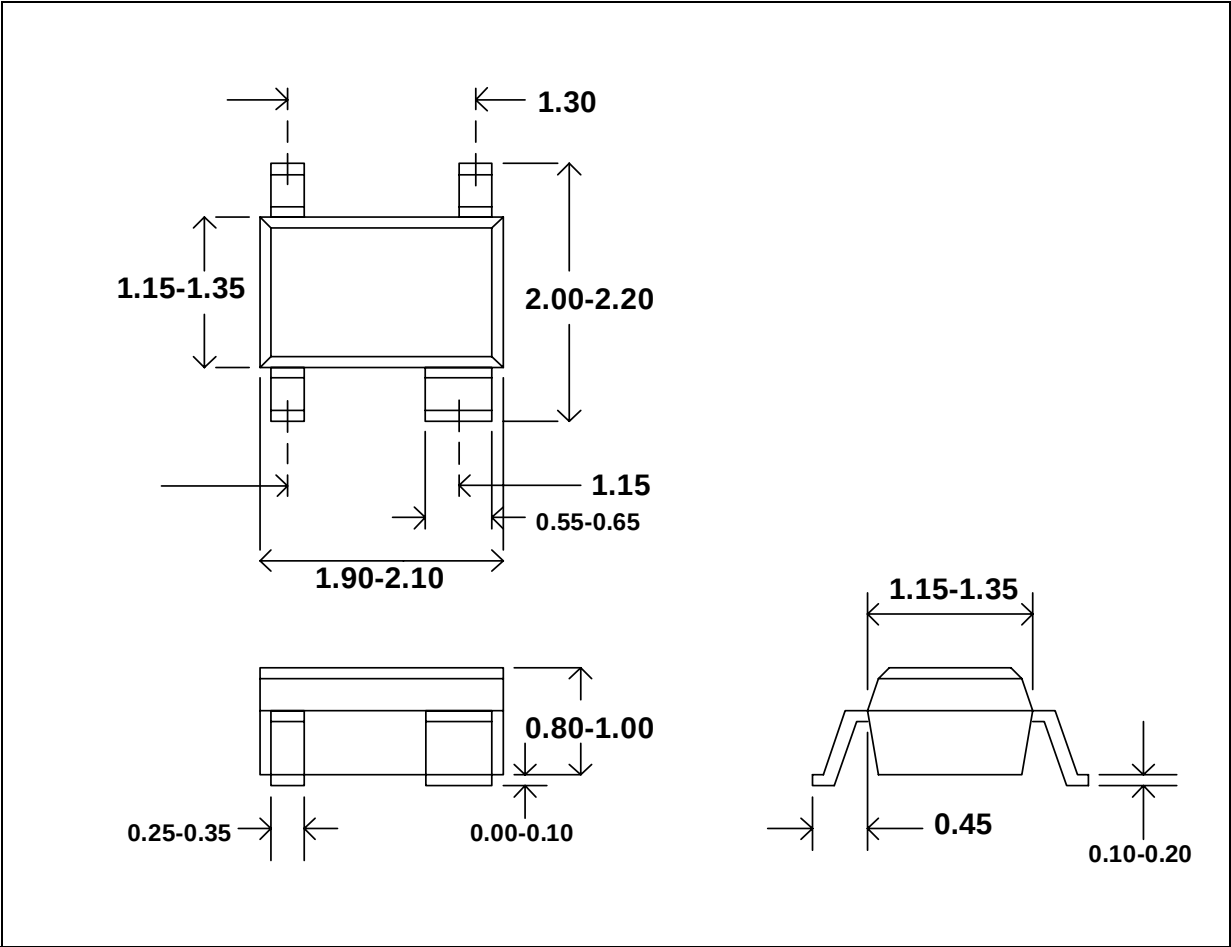
Pin No.	Description
1	BASE
3	COLLECTOR
2,4	EMITTER

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{cbo}	Collector cutoff current	V _{cb} = 5V, 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 = 50mA, V _{ce} = 4V	50	90		
NF _{min}	Minimim noise figure	I _c = 10mA, V _{ce} = 2V, f = 1.8GHz, Z _s = Z _s opt		1.25		dB
G _a	NF _{min} associated gain	I _c = 10mA, V _{ce} = 2V, f = 1.8GHz		11.8		dB
S ₂₁ ²	Insertion power gain	I _c = 50mA, V _{ce} = 2V, f = 1.8GHz		11		dB
G _{ms} ⁽¹⁾	Maximum stable gain	I _c = 50mA, V _{ce} = 2V, f = 1.8GHz		14		dB
P _{-1dB}	1dB compression point	I _c = 50mA, V _{ce} = 3V, f = 1.8GHz		19		dBm
OIP3	Output third order intercept point	I _c = 50mA, V _{ce} = 3V, f = 1.8GHz		29		dBm

Note(1): G_{ms} = | S₂₁ / S₁₂ |

PACKAGE DIMENSIONS SOT343 (SC-70 4 leads)



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