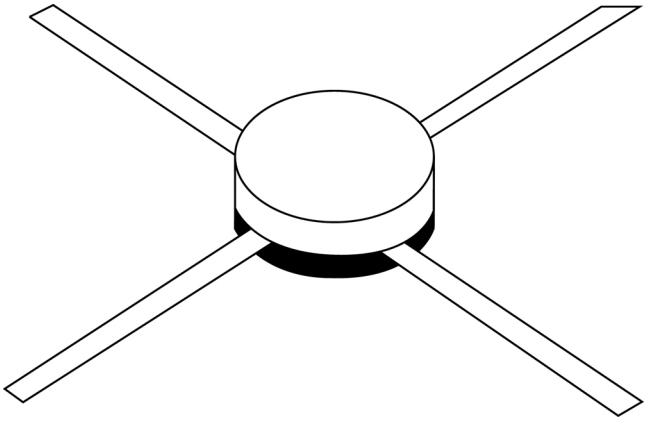
BIPOLARICS, INC. Part Number B12V114B

NPN LOW NOISE SILICON MICROWAVE TRANSISTOR

PRODUCT DATA SHEET

FEATURES:

- Common Base
- High Gain Bandwidth Product
  f_t = 10 GHz typ @ I_C = 25mA
- High Gain
  $|S_{21}|^2$ = 7.10 dB @ 1.0 GHz
  5.60 dB @ 2.0 GHz
- High Reliability
  Gold Metallization
  Nitride Passivation
- Low Cost
- Ceramic Micro-X package available



Absolute Maximum Ratings:

SYMBOL	PARAMETERS	RATING	UNITS
V_{CBO}	Collector-Base Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	1.5	V
I_C	Collector Current	60	mA
T_J	Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to 150	°C

PERFORMANCE DATA:

- Electrical Characteristics (T_A = 25°C)

SYMBOL	PARAMETERS & CONDITIONS V_{CE} = 8V, I_C = 25 mA unless stated		UNIT	MIN.	TYP.	MAX.
f_t	Gain Bandwidth Product		GHz		10.0	
$\|S_{21}\|^2$	Insertion Power Gain:	f = 1.0 GHz f = 2.0 GHz	dB dB		7.10 5.60	
P_{1dB}	Power output at 1dB compression:	f = 1.0 GHz	dBm		21.0	
G_{1dB}	Gain at 1dB compression:	f = 1.0 GHz	dBm		15.0	
h_{FE}	Forward Current Transfer Ratio: V_{CE} = 8V, I_C =25 mA	f = 1MHz		30	150	300
I_{CBO}	Collector Cutoff Current : V_{CB} = 8V		µA			0.2
I_{EBO}	Emitter Cutoff Current : V_{EB} = 1V		µA			1.0
C_{CB}	Collector Base Capacitance: V_{CB} = 8V	f = 1MHz	pF		0.25	