

**DESCRIPTION**

The SD1429 is a 12.5 V Class C epitaxial silicon NPN planar transistor designed primarily for UHF communications. This device utilizes “Tuned Q” technology which consists of an input matching network on the base to achieve optimum gain and broadband characteristics.

**IMPORTANT:** For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>

**KEY FEATURES**

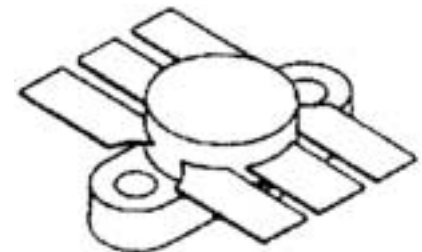
- 470 MHz
- 12.5 Volts
- Common Emitter
- $P_{OUT} = 12$  W Min.
- $G_P = 7.8$  dB Gain

**APPLICATIONS/BENEFITS**

- UHF Mobile Applications

**ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	36	V
$V_{CEO}$	Collector-Emitter Voltage	16	V
$V_{CES}$	Collector-Emitter Voltage	36	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Device Current	3.4	A
$P_{DISS}$	Power Dissipation	37.5	W
$T_J$	Junction Temperature	+200	°C
$T_{STG}$	Storage Temperature	-65 to +150	°C

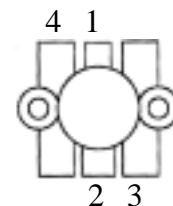


**.500 6LFL (M111)  
EPOXY SEALED**

**THERMAL DATA**

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	4.6	°C/W
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**PIN CONNECTION**



1. Collector      3. Base  
2. Emitter        4. Emitter

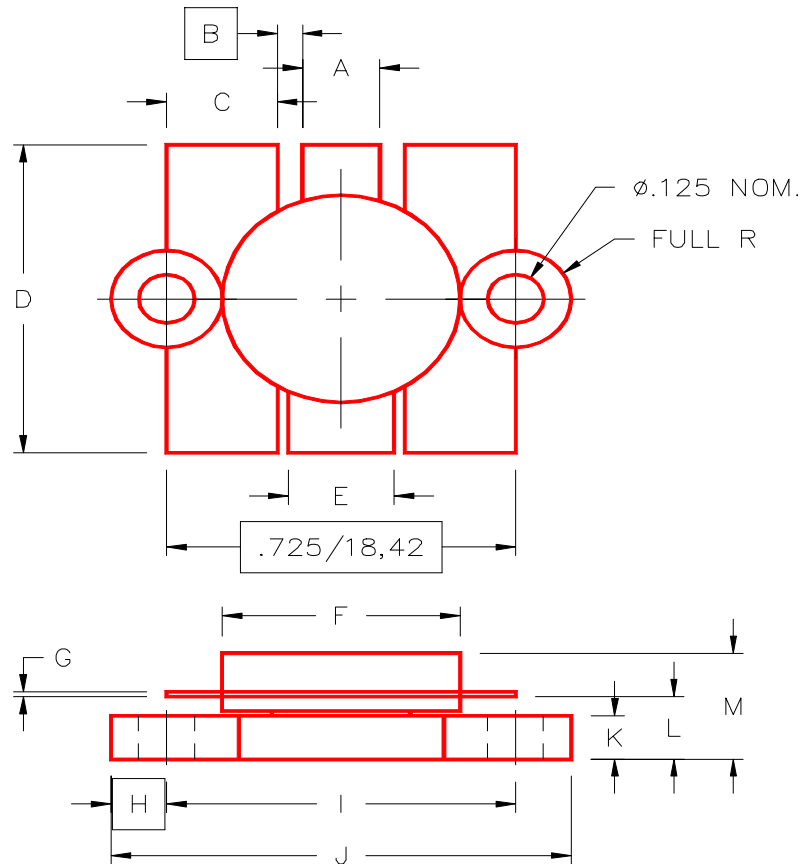
**STATIC ELECTRICAL SPECIFICATIONS (T<sub>CASE</sub> = 25°C)**

Symbol	Test Conditions	SD1429			Units
		Min.	Typ.	Max.	
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 200 mA</b> <b>V<sub>BE</sub> = 0 V</b>	36	—	—	V
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 200 mA</b> <b>I<sub>B</sub> = 0 mA</b>	16	—	—	V
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 4 mA</b> <b>I<sub>C</sub> = 0 mA</b>	4.0	—	—	V
<b>I<sub>CBO</sub></b>	<b>V<sub>CB</sub> = 15 V</b> <b>I<sub>E</sub> = 0 mA</b>	—	—	2.0	mA
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V</b> <b>I<sub>C</sub> = 500 mA</b>	20	—	200	—

**DYNAMIC ELECTRICAL SPECIFICATIONS (T<sub>CASE</sub> = 25°C)**

Symbol	Test Conditions	SD1429			Units
		Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 470 MHz</b> <b>P<sub>IN</sub> = 2 W</b> <b>V<sub>CE</sub> = 12.5 V</b>	12	—	—	W
<b>G<sub>P</sub></b>	<b>f = 470 MHz</b> <b>P<sub>IN</sub> = 2 W</b> <b>V<sub>CE</sub> = 12.5 V</b>	7.8	—	—	dB
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b> <b>V<sub>CB</sub> = 12 V</b>	—	—	50	pF

PACKAGE STYLE M111



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.150/3,43	.160/4,06	I	.720/18,29	.730/18,54
B	.045/1,14		J	.970/24,64	.980/24,89
C	.210/5,33	.220/5,59	K	.095/2,41	.105/2,67
D	.835/21,21	.865/21,97	L	.150/3,81	.170/4,32
E	.200/5,08	.210/5,33	M		.280/7,11
F	.490/12,45	.510/12,95			
G	.003/0,08	.007/0,18			
H	.125/3,18				



SD1429

RF & MICROWAVE TRANSISTORS

PRODUCT PREVIEW

www.Microsemi.com

NOTES

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