

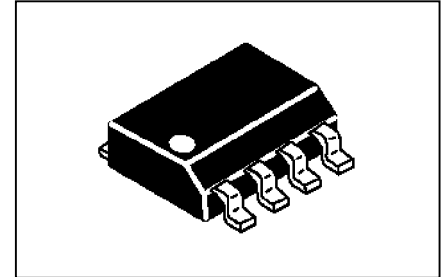
**SRF4427**  
**SRF4427G**

\* G Denotes RoHS Compliant, Pb Free Terminal Finish

## RF AND MICROWAVE DISCRETE LOW POWER TRANSISTORS GENERAL RF AMPLIFIER APPLICATIONS

### Features

- Low Cost SO-8 Plastic Surface Mount Package.
- S-Parameter Characterization
- Tape and Reel Packaging Options Available
- Maximum Available Gain – 20dB(typ) @ 200MHz



### DESCRIPTION:

Designed for general-purpose RF amplifier applications, such as pre-drivers and oscillators.

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

Symbol	Parameter	Value	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage	18	Vdc
V <sub>CBO</sub>	Collector-Base Voltage	36	Vdc
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	Vdc
I <sub>C</sub>	Collector Current	400	mA

### Thermal Data

P <sub>D</sub>	Total Device Dissipation @ TC = 25°C	1.5	Watts
	Derate above 25°C	12.5	mW/°C
T <sub>STG</sub>	Storage Temperature	-65 to + 150	°C
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	125	°C/W

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

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>BV<sub>CEO</sub></b>	<b>Collector-Emitter Breakdown Voltage (I<sub>C</sub> = 10 mA<sub>dc</sub>, I<sub>B</sub> = 0)</b>	<b>18</b>	<b>-</b>	<b>-</b>	<b>V<sub>dc</sub></b>
<b>BV<sub>CES</sub></b>	<b>Collector-Base Breakdown Voltage (I<sub>C</sub> = 5 mA<sub>dc</sub>, I<sub>E</sub> = 0)</b>	<b>36</b>	<b>-</b>	<b>-</b>	<b>V<sub>dc</sub></b>
<b>BV<sub>EBO</sub></b>	<b>Emitter-Base Breakdown Voltage (I<sub>E</sub> = 5 mA<sub>dc</sub>, I<sub>C</sub> = 0)</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>V<sub>dc</sub></b>
<b>I<sub>CBO</sub></b>	<b>Collector Cutoff Current (V<sub>CB</sub> = 12.5 V<sub>dc</sub>)</b>	<b>-</b>	<b>-</b>	<b>800</b>	<b>uA</b>

**STATIC (on)**

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>HFE</b>	<b>DC Current Gain (V<sub>CE</sub> = 5 V<sub>dc</sub>, I<sub>C</sub> = 150 mA<sub>dc</sub>)</b>	<b>20</b>		<b>200</b>	

**DYNAMIC**

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>F<sub>TAU</sub></b>	<b>Current-Gain Bandwidth Product (I<sub>C</sub> = 50 mA<sub>dc</sub>, V<sub>CE</sub> = 12 V<sub>dc</sub>, f = 200 MHz)</b>		<b>1.3</b>		<b>GHz</b>
<b>C<sub>OB</sub></b>	<b>Output Capacitance (V<sub>CB</sub> = 12 V<sub>dc</sub>, I<sub>E</sub> = 0, f = 1.0 MHz)</b>			<b>3.4</b>	<b>GHz</b>

**FUNCTIONAL**

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
<b>G<sub>PE</sub></b>	<b>Power Gain V<sub>CE</sub> = 12 V<sub>dc</sub>, f = 175 MHz, Pin = 15 mW</b>	<b>17</b>	<b>18</b>	<b>-</b>	<b>dB</b>
<b> S<sub>21</sub> <sup>2</sup></b>	<b>Insertion Gain V<sub>CE</sub> = 12 V<sub>dc</sub>, I<sub>C</sub> = 50 mA<sub>dc</sub>, f = 200 MHz</b>	<b>12</b>	<b>14</b>	<b>-</b>	<b>dB</b>

**PACKAGE MECHANICAL DATA**

