

CentralTM Semiconductor Corp.

145 Adams Avenue, Hauppauge, NY 11788 USA
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

2N4427

NPN SILICON RF TRANSISTOR

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N4427 type is a Silicon NPN Epitaxial Planar RF Transistor mounted in a hermetically sealed package designed for high frequency amplifier applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	<u>SYMBOL</u>		<u>UNIT</u>
Collector-Base Voltage	V_{CB0}	40	V
Collector-Emitter Voltage	V_{CE0}	20	V
Emitter-Base Voltage	V_{EB0}	2.0	V
Collector Current	I_C	400	mA
Base Current	I_B	400	mA
Power Dissipation	P_D	1.0	W
Power Dissipation ($T_C=25^{\circ}\text{C}$)	P_D	3.5	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +200	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNIT</u>
I_{CE0}	$V_{CE}=12\text{V}$		20	μA
I_{EB0}	$V_{EB}=2.0\text{V}$		100	μA
I_{CEV}	$V_{CE}=\text{Rated } V_{CB0}, V_{BE}=1.5\text{V}$		100	μA
I_{CEV}	$V_{CE}=12\text{V}, V_{BE}=1.5\text{V}, T_C=150^{\circ}\text{C}$		5.0	mA
BV_{CER}	$I_C=5.0\text{mA}, R_{BE}=10\Omega$	40		V
BV_{CE0}	$I_C=5.0\text{mA}$	20		V
$V_{CE}(\text{SAT})$	$I_C=100\text{mA}, I_B=20\text{mA}$		0.5	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	10	200	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=360\text{mA}$	5.0		
f_T	$V_{CE}=15\text{V}, I_C=50\text{mA}, f=200\text{MHz}$	500		MHz
C_{ob}	$V_{CB}=12\text{V}, I_E=0, f=1.0\text{MHz}$		4.0	pF
G_{pe}	$V_{CC}=12\text{V}, P_{IN}=100\text{mW}, f=175\text{MHz}$	10		dB
η	$V_{CC}=12\text{V}, P_{OUT}=1.0\text{W}, f=175\text{MHz}$	50		%
P_{IN}	$V_{CC}=12\text{V}, P_{OUT}=1.0\text{W}, f=175\text{MHz}$	—	100	mW