Central™
Semiconductor Corp.
145 Adams Avenue, Hauppauge, NY 11788 USA
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

2N2102
2N2102A

NPN SILICON TRANSISTOR

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N2102,A types are NPN Silicon Transistors designed for high current general purpose amplifier applications, where low leakage and low $V_{CE(SAT)}$ is required. Higher h_{FE} versions are also available on special order.

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

	SYMBOL		UNIT
Collector Base Voltage	V_{CBO}	120	V
Collector Emitter Voltage(R_{BE}=10Ω)	V_{CER}	80	V
Collector Emitter Voltage	V_{CEO}	65	V
Emitter Base Voltage	V_{EBO}	7.0	V
Collector Current	I_C	1.0	A
Power Dissipation	P_D	1.0	W
Power Dissipation(T_C=25°C)	P_D	5.0	W
Operating and Storage Junction Temperature	T_J,T_{stg}	-65 TO +200	°C
Thermal Resistance	ΘJA	175	°C/W
Thermal Resistance	ΘJC	35	°C/W

ELECTRICAL CHARACTERISTICS(T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_{CBO}	V_{CB}=60V		2.0	nA
I_{CBO}	V_{CB}=60V, T_A=150°C		2.0	µA
I_{EBO}	V_{BE}=5.0V		2.0	nA
BV_{CBO}	I_C=100µA	120		V
BV_{CER}	I_C=100mA, R_{BE}=10Ω	80		V
BV_{CEO}	I_C=100mA	65		V
BV_{EBO}	I_E=100µA	7.0		V
$V_{CE(SAT)}$	I_C=150mA (2N2102)		0.5	V
$V_{CE(SAT)}$	I_C=150mA (2N2102A)		0.3	V
$V_{BE(SAT)}$	I_C=150mA, I_B=15mA		1.1	V
h_{FE}	V_{CE}=10V, I_C=10µA	10		
h_{FE}	V_{CE}=10V, I_C=100µA	20		
h_{FE}	V_{CE}=10V, I_C=10mA	35		
h_{FE}	V_{CE}=10V, I_C=10mA, T_C=55°C	20		
h_{FE}	V_{CE}=10V, I_C=150mA	40	120	
h_{FE}	V_{CE}=10V, I_C=500mA	25		
h_{FE}	V_{CE}=10V, I_C=1.0A	10		
h_{fe}	V_{CE}=5.0V, I_C=1.0mA, f=1.0kHz	30	100	
h_{fe}	V_{CE}=10V, I_C=5.0mA, f=1.0kHz	35	150	
h_{ib}	V_{CE}=5.0V, I_C=1.0mA, f=1.0kHz	24	34	Ω
h_{ib}	V_{CE}=10V, I_C=5.0mA, f=1.0kHz	4.0	8.0	Ω
h_{rb}	V_{CE}=5.0V, I_C=1.0mA, f=1.0kHz		$3X10^{-4}$	
h_{rb}	V_{CE}=10V, I_C=5.0mA, f=1.0kHz		$3X10^{-4}$	
h_{ob}	V_{CE}=5.0V, I_C=1.0mA, f=1.0kHz	0.08	0.5	µmho
h_{ob}	V_{CE}=10V, I_C=5.0mA, f=1.0kHz	0.08	1.0	µmho
f_T	V_{CE}=10V, I_C=50mA, f=20MHz	60		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=100kHz		15	pF
C_{ib}	V_{BE}=0.5V, I_C=0, f=100kHz		80	pF
NF	V_{CE}=10V, I_C=300µA, R_S=1.0kΩ, f=1.0kHz, Bandwidth=1.0Hz		6.0	dB

littlediode
COMPONENTS FOR ALL

Littlediode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.