RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

2N2219A

TO-39 NPN SILICON PLANAR SWITCHING TRANSISTORS

Switching And Linear Application DC And VHF Amplifier Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	2N2219A	UNIT
Collector -Emitter Voltage	VCEO	40	V
Collector -Base Voltage	VCBO	75	V
Emitter -Base Voltage	VEBO	6.0	V
Collector Current Continuous	IC	800	mA
Power Dissipation @Ta=25 degC	PD	800	mW
Derate Above 25deg C		4.57	mW/deg C
@ Tc=25 degC	PD	3.0	W
Derate Above 25deg C		17.1	mW/deg C
Operating And Storage Junction Temperature Range	Tj, Tstg	-65 to +200	deg C

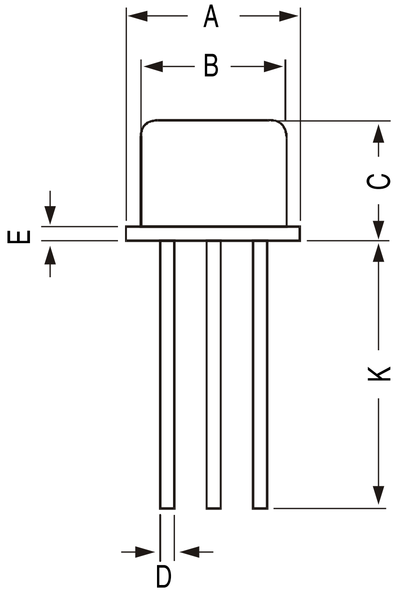
ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)

DESCRIPTION	SYMBOL	TEST CONDITION	VALUE		UNIT
			MIN	MAX	
Collector -Emitter Voltage	VCEO	IC=10mA,IB=0	40	-	V
Collector -Base Voltage	VCBO	IC=10uA.IE=0	75	-	V
Emitter-Base Voltage	VEBO	IE=10uA, IC=0	6.0	-	V
Collector-Cut off Current	ICBO	VCB=60V, IE=0	-	10	nA
		Ta=150 deg C			
		VCB=60V, IE=0	-	10	uA
	ICEX	VCE=60V, VEB=3V	-	10	nA
Emitter-Cut off Current	IEBO	VEB=3V, IC=0	-	10	nA
Base-Cut off Current	IBL	VCE=60V, VEB=3V	-	20	nA
Collector Emitter Saturation Voltage	VCE(Sat)*	IC=150mA,IB=15mA	-	0.3	V
		IC=500mA,IB=50mA		1.0	V
Base Emitter Saturation Voltage	VBE(Sat) *	IC=150mA,IB=15mA	-	0.6-1.2	V
		IC=500mA,IB=50mA	-	2.0	V

ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)			2N2219A	
DESCRIPTION	**SYMBOL**	**TEST CONDITION**		**UNIT**
DC Current Gain	hFE	IC=0.1mA,VCE=10V	>35	
		IC=1mA,VCE=10V	>50	
		IC=10mA,VCE=10V	>75	
		Ta=55 deg C		
		IC=10mA,VCE=10V	>35	
		IC=150mA,VCE=10V	100-300	
		IC=150mA,VCE=1V	>50	
		IC=500mA,VCE=10V	>40	
DYNAMIC CHARACTERISTICS				
		ALL f=1kHz		
Small Signal Current Gain	hfe	IC=1mA, VCE=10V	50-300	
		IC=10mA, VCE=10V	75-375	
Input Impedance	hie	IC=1mA, VCE=10V	2.0-8.0	kohms
		IC=10mA, VCE=10V	0.25-1.25	
Voltage Feedback Ratio	hre	IC=1mA, VCE=10V	<8.0	x10-4
		IC=10mA, VCE=10V	<4.0	
Out put Admittance	hoe	IC=1mA, VCE=10V	5.0-35	umhos
		IC=10mA, VCE=10V	25-200	
Collector Base Time Constant	rb'Cc	IE=20mA, VCB=20V f=31.8MHz	<150	ps
Real Part Common-Emitter High Frequency Input Impedance	Re(hie)	IC=20mA, VCE=20V f=300MHz	<60	ohms
Noise Figure	NF	IC=100uA, VCE=10V Rs=1kohms, f=1kHz -	<4.0	dB
DYNAMIC CHARACTERISTICS				
Transistors Frequency	ft	IC=20mA, VCE=20V f=100MHz	>300	MHz
Out-Put Capacitance	Cob	VCB=10V, IE=0 f=100kHz	<8.0	pF
Input Capacitance	Cib	VEB=0.5V, IC=0 f=100kHz	<25	pF
SWITCHING Time				
Delay time	td	IC=150mA,IB1=15mA	<10	ns
Rise time	tr	VCC=30V,VBE=0.5V -	<25	ns
Storage time	ts	IC=150mA, IB1=	<225	ns
Fall time	tf	IB2=15mA, VCC=30V -	<60	ns

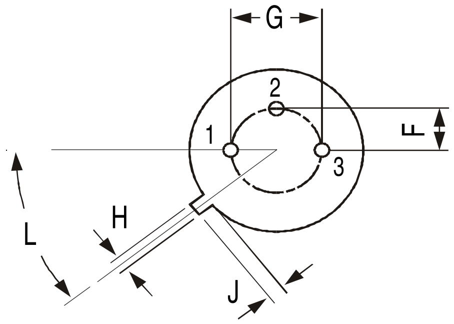
***Pulse Condition: Pulse Width=300us, Duty Cycle=2%**

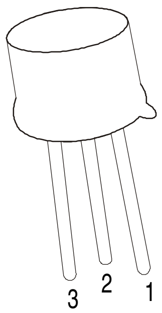
TO-39 Metal Can Package



All dimensions are in mm

DIM	MIN	MAX
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	—	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	—
L	42 DEG	48 DEG





PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

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