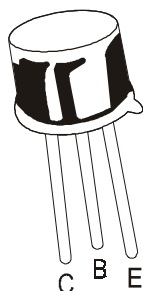


NPN SILICON PLANAR SWITCHING TRANSISTORS

2N2218
2N2219

TO-39
Metal Can Package



2N2218 TO 2N2222 Are NPN Silicon Small Signal General Purpose Amplifier And Switch

Switching and Linear Application DC and VHF Amplifier Applications

ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	2N2218, 19	UNIT
Collector Emitter Voltage	V_{CEO}	30	V
Collector Base Voltage	V_{CBO}	60	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current Continuous	I_C	800	mA
Power Dissipation @Ta=25°C	P_D	800	mW
Derate Above 25°C		4.57	mW/°C
Power Dissipation @ Tc=25°C	P_D	3	W
Derate Above 25°C		17.1	mW/°C
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-65 to +200	°C

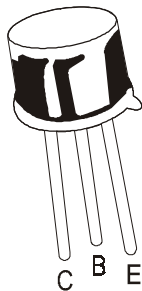
ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	VALUE		UNIT
			MIN	MAX	
Collector Emitter Breakdown Voltage	BV_{CEO}	$I_C=10mA, I_B=0$	30		V
Collector Base Breakdown Voltage	BV_{CBO}	$I_C=10\mu A, I_E=0$	60		V
Emitter Base Breakdown Voltage	BV_{EBO}	$I_E=10\mu A, I_C=0$	5		V
Collector Leakage Current	I_{CBO}	$V_{CB}=50V, I_E=0$		10	nA
		$V_{CB}=50V, I_E=0$ $T_a=150^\circ C$		10	μA
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$ *	$I_C=150mA, I_B=15mA$		0.4	V
		$I_C=500mA, I_B=50mA$		1.6	V
Base Emitter Saturation Voltage	$V_{BE(Sat)}$ *	$I_C=150mA, I_B=15mA$	0.6	1.3	V
		$I_C=500mA, I_B=50mA$		2.6	V

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ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	2N2218		2N2219		UNIT
			MIN	MAX	MIN	MAX	
DC Current Gain	h_{FE}	$I_C=0.1mA, V_{CE}=10V^*$	20		35		
		$I_C=1mA, V_{CE}=10V$	25		50		
		$I_C=10mA, V_{CE}=10V^*$	35		75		
		$I_C=150mA, V_{CE}=1V^*$	20		50		
		$I_C=150mA, V_{CE}=1V^*$	40	120	100	300	
		$I_C=500mA, V_{CE}=10V^*$	20		30		

DYNAMIC CHARACTERISTICS

Transition Frequency	f_T	$I_C=20mA, V_{CE}=20V$ $f=100MHz$	250		250		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0$ $f=100KHz$		8		8	pF
Input Capacitance	C_{ib}	$V_{EB}=0.5V, I_C=0$ $f=100kHz$		30		30	pF

SWITCHING CHARACTERISTICS

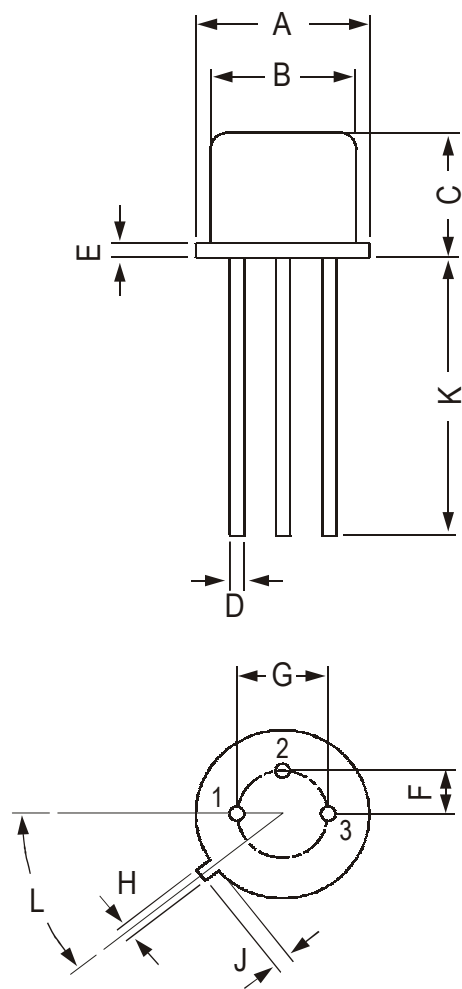
Delay time	t_d				10	ns
Rise time	t_r	$I_C=150mA, IB1=15mA$				
Storage time	t_s	$V_{CC}=30V, V_{BE(off)}=0.5V$			25	ns
					225	ns
Fall time	t_f	$I_C=150mA, IB1=15mA$ $IB2=15mA, V_{CC}=30V$			60	ns

*Pulse Condition: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

2N2218
2N2219

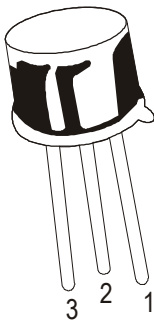
TO-39
Metal Can Package

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

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-39	500 pcs/polybag	540 gm/500 pcs	3" x 7.5" x 7.5"	20K	17" x 15" x 13.5"	32K	40 kgs

Disclaimer

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Continental Device India Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119

email@cdil.com www.cdilsemi.com

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