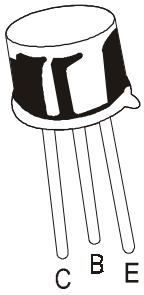
Continental Device India Limited

An ISO/TS16949 and ISO 9001 Certified Company

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=25ºC unless specified otherwise)

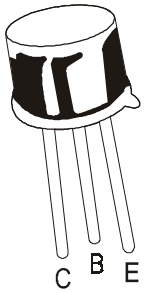
DESCRIPTION	SYMBOL	2N2218, 19	UNIT
Collector Emitter Voltage	V_{CEO}	30	V
Collector Base Voltage	V_{CBO}	60	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current Continuous	I_C	800	mA
Power Dissipation @Ta=25ºC	P_D	800	mW
Derate Above 25ºC		4.57	mW/ºC
Power Dissipation @ Tc=25ºC	P_D	3	W
Derate Above 25ºC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

ELECTRICAL CHARACTERISTICS (Ta=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	VALUE MIN	VALUE MAX	UNIT
Collector Emitter Breakdown Voltage	BV_{CEO}	I_C=10mA,I_B=0	30		V
Collector Base Breakdown Voltage	BV_{CBO}	I_C=10µA.I_E=0	60		V
Emitter Base Breakdown Voltage	BV_{EBOf}	I_E=10µA, I_C=0	5		V
Collector Leakage Current	I_{CBO}	V_{CB}=50V, I_E=0		10	nA
		V_{CB}=50V, I_E=0 Ta=150 ° 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

NPN SILICON PLANAR SWITCHING TRANSISTORS

2N2218
2N2219



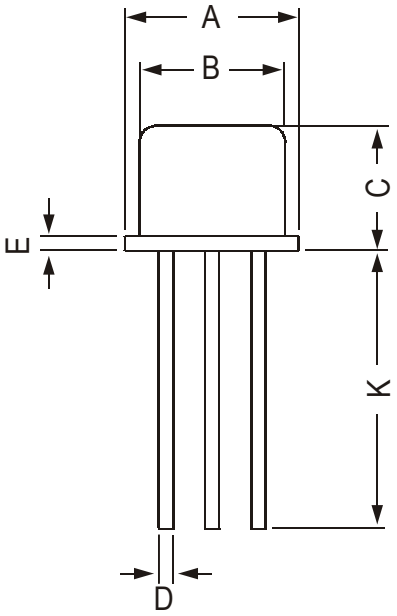
TO-39
Metal Can Package

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

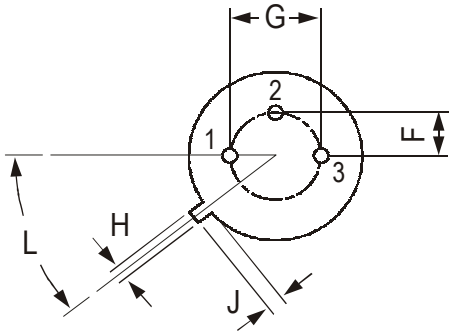
***Pulse Condition: Pulse Width ≤300µs, Duty Cycle ≤2%**

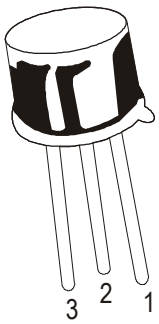
TO-39 Metal Can Package



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

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

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.

CDIL is a registered Trademark of

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