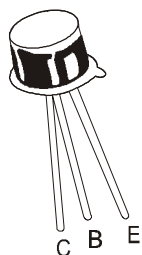


## NPN SILICON PLANAR TRANSISTOR

2N3117



TO-18

Metal Can Package

Designed for Low Noise, High Gain General Purpose Amplifier Applications

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Emitter Voltage	$V_{CEO}$	60	V
Collector Base Voltage	$V_{CBO}$	60	V
Emitter Base Voltage	$V_{EBO}$	6	V
Collector Current Continuous	$I_C$	30	mA
Power Dissipation at $T_a=25^\circ\text{C}$	$P_{tot}$	0.5	W
Junction Temperature Range	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to +175	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless specified otherwise )

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Voltage	$V_{CEO}$	$I_C=1\text{mA}, I_B=0$	60			V
Collector Base Voltage	$V_{CBO}$	$I_C=10\mu\text{A}, I_E=0$	60			V
Emitter Base Voltage	$V_{EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector Cut Off Current	$I_{CBO}$	$V_{CB}=45\text{V}, I_E=0$			10	nA
Emitter Cut Off Current	$I_{EBO}$	$V_{EB}=6\text{V}, I_C=0$			100	nA
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1\text{mA}, I_B=0.1\text{mA}$			0.35	V
DC Current Gain	$h_{FE}$	$I_C=1\text{mA}, V_{CE}=5\text{V}$	400			
		$I_C=100\mu\text{A}, V_{CE}=5\text{V}$	300			
		$I_C=10\mu\text{A}, V_{CE}=5\text{V}$	250		500	
		$I_C=1\mu\text{A}, V_{CE}=5\text{V}$	100			

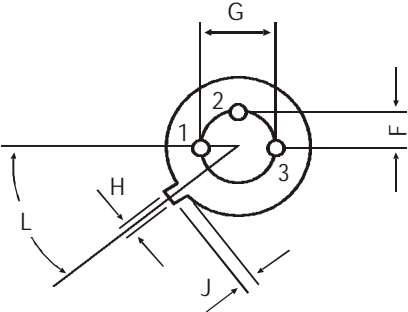
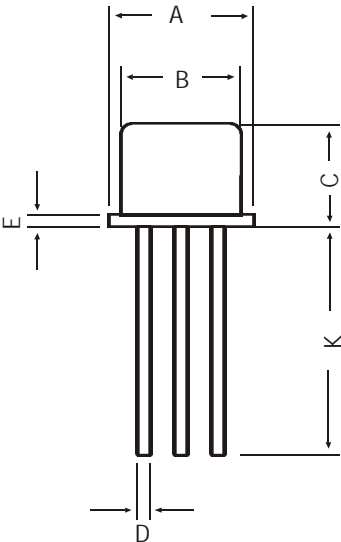
### SMALL SIGNAL CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Transition Frequency	$f_T$	$I_C=0.5\text{mA}, V_{CE}=5\text{V}$	60			MHz
Output Capacitance	$C_{ob}$	$V_{CB}=5\text{V}, I_E=0$			4.5	pF
Noise Figure	NF	$I_C=10\mu\text{A}, V_{CE}=5\text{V}, f=1\text{kHz}$			3.0	dB

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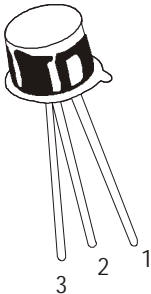
TO-18  
Metal Can Package

TO-18 Metal Can Package



All dimensions in mm.

DIM	MIN	MAX
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.40	0.53
E	—	0.76
F	—	1.27
G	—	2.97
H	0.91	1.17
J	0.71	1.21
K	12.70	—
L	45 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-18	1K/polybag	350 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	34 kgs

**Component Disposal Instructions**

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

**Disclaimer**

The product information and the selection guides facilitate selection of the CDIL's 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 in the Data Sheet and on the CDIL Web Site/CD are 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 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).

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