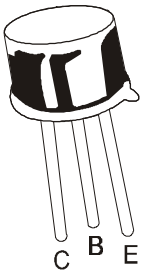
NPN SILICON PLANAR TRANSISTOR

2N1711

TO-39
Metal Can Package



General Purpose Transistor

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Emitter Voltage, $R_{BE} \leq 10W$	V_{CER}	50	V
Collector Base Voltage	V_{CBO}	75	V
Emitter Base Voltage	V_{EBO}	7.0	V
Power Dissipation at T_a=25ºC Derate Above 25ºC	P_D	800 4.57	mW mW/ ºC
Power Dissipation at T_c=25ºC Derate Above 25ºC	P_D	3.0 17.15	W mW/ ºC
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200	ºC

ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Voltage	V_{CER}	I_C=1mA, $R_{BE} \leq$10 Ω	50			V
Collector Base Voltage	V_{CBO}	I_C=100µA, I_E=0	75			V
Emitter Base Voltage	V_{EBO}	I_E=100µA, I_C=0	7.0			V
Collector Cut Off Current	I_{CBO}	V_{CB}=60V, I_E=0			10	nA
		V_{CB}=60V, I_E=0, T_a=150ºC			10	µA
Emitter Cut Off Current	I_{EBO}	V_{EB}=5V, I_C=0			5.0	nA
DC Current Gain	h_{FE}	I_C=0.01mA, V_{CE}=10V	20			
		I_C=0.1mA, V_{CE}=10V	35			
		I_C=10mA, V_{CE}=10V	75			
		I_C=10mA, V_{CE}=10V, T_a= -55ºC	35			
		I_C=150mA, V_{CE}=10V	100		300	
		I_C=500mA, V_{CE}=10V	40			
Collector Emitter Saturation Voltage	*$V_{CE\ (sat)}$	I_C=150mA, I_B=15mA			0.5	V
Base Emitter Saturation Voltage	*$V_{BE\ (sat)}$	I_C=150mA, I_B=15mA			1.3	V

SMALL SIGNAL CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Transition Frequency	f_T	I_C=50mA, V_{CE}=10V, f=20MHz	70			MHz
Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=100KHz			25	pF
Input Capacitance	C_{ib}	V_{EB}=0.5V, I_C=0, f=100KHz			80	pF
Input Impedance	h_{ib}	I_C=1mA, V_{CB}=5V, f=1KHz	24		34	Ω
		I_C=5mA, V_{CB}=10V, f=1KHz	4.0		8.0	Ω
Voltage Feedback Ratio	h_{rb}	I_C=1mA, V_{CB}=5V, f=1KHz			5.0	$x10^{-4}$
		I_C=5mA, V_{CB}=10V, f=1KHz			5.0	$x10^{-4}$
Small Signal Current Gain	h_{fe}	I_C=1mA, V_{CB}=5V, f=1KHz	50		200	
		I_C=5mA, V_{CB}=10V, f=1KHz	70		300	

***Pulse Test: Pulse Width $\leq$ 300µs, Duty Cycle $\leq$ 2%**

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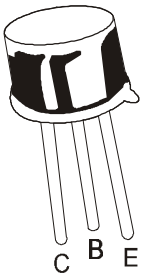


TO-39
Metal Can Package

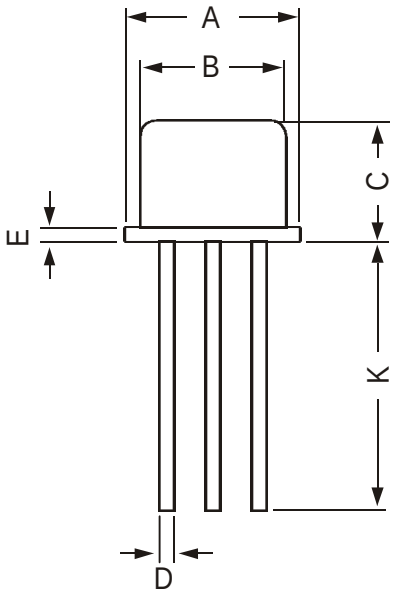
ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

SMALL SIGNAL CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Output Admittance	h_{ob}	I_C=1mA, V_{CB}=5V, f=1KHz	0.05		0.5	µmhos
		I_C=5mA, V_{CB}=10V, f=1KHz	0.05		0.5	µmhos
Noise Figure	NF	I_C=300µA, V_{CE}=10V, f=1KHz			8.0	dB

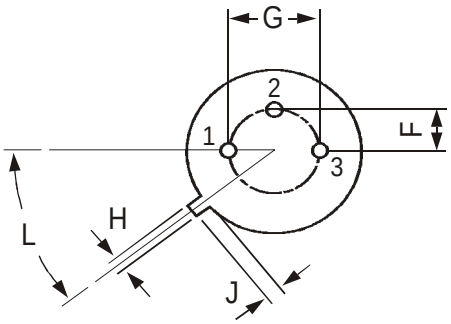
2N1711Rev_1 040406E

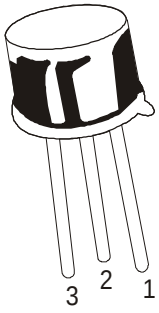
TO-39 Metal Can Package



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

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).

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Disclaimer

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