New Jersey Semi-Conductor Products, Inc.

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2N5172

NPN SILICON PLANAR EPITAXIAL TRANSISTOR

TO92 Plastic Package

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

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Emitter Voltage	V_{CEO}	25	V
Collector Base Voltage	V_{CBO}	25	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current Continuous	I_C	100	mA
Power Dissipation @ Ta=25°C Derate Above 25°C	P_D	625 5	mW mW/°C
Power Dissipation @ Tc=25°C Derate Above 25°C	P_D	1.5 12	W mW/°C
Operating And Storage Junction Temperature Range	T_j, T_{stg}	- 55 to +150	°C

THERMAL RESISTANCE

Junction to Ambient	$R_{th(j-a)}$	200	°C/W
Junction to Case	$R_{th(j-c)}$	83.3	°C/W

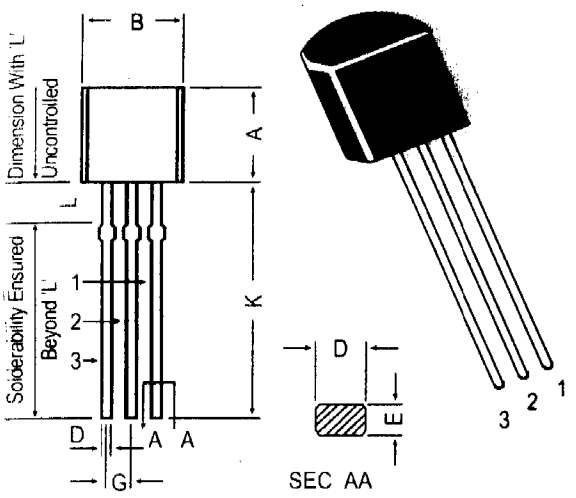
ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)

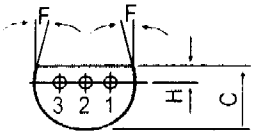
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Voltage	V_{CEO}	I_C=10mA,I_B=0	25			
Collector Cut Off Current	I_{CBO}	V_{CB}=25V, I_E=0			100	nA
		V_{CB}=25V,I_E=0,Ta=100°C			10	µA
Collector Cut Off Current	I_{CES}	V_{CE} =25V, V_{BE}=0V			100	nA
Emitter Cut Off Current	I_{EBO}	V_{EB}=5V, I_C = 0			100	nA
DC Current Gain	h_{FE}	V_{CE}=10V,I_C=10mA	100		500	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=10mA,I_B=1mA			0.25	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=10mA,I_B=1mA		0.75		V
Base Emitter On Voltage	$V_{BE(on)}$	V_{CE}=10V,I_C=10mA	0.5		1.2	V

DYNAMIC CHARACTERISTICS

Current Gain-Bandwidth Product	f_T	I_C=2mA, V_{CE}=5V		120		MHz
Collector Base Capacitance	C_{Cb}	I_E=0, V_{CB}=0V,f=1MHz	1.6		10	pF
Small Signal Current Gain	h_{fe}	V_{CE} =10V,I_C=10mA f=1kHz	100		750	

Quality Semi-Conductors





PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER

DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—
L	1.982	2.082

All diminsions in mm.