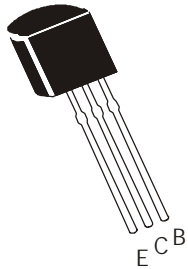


**NPN SILICON PLANAR EPITAXIAL TRANSISTOR**

**2N5172**



**TO-92  
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	$P_D$	625	mW
Derate Above 25°C		5	mW/°C
Power Dissipation @ Tc=25°C	$P_D$	1.5	W
Derate Above 25°C		12	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	$I_{CBO}$	$V_{CB}=25V, I_E=0$ $V_{CB}=25V, I_E=0, T_a=100°C$			100 10	nA 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	



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