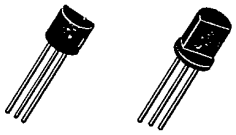
2N5172, MPS5172, PN5172, 2N6076

Silicon Transistors



TO-92 TO-98

The GE/RCA 2N, MPS, PN5172 are NPN and 2N6076 is a PNP silicon transistors designed for general purpose applications. The planar, passivated construction assures excellent device stability and life. This high performance and high value is made possible by advanced manufacturing techniques, epoxy encapsulation and utilization of full line beta distribution. Significant savings may be realized by designing equipment utilizing these "full line distribution" type transistors.

PNP values are negative; observe proper polarity. These types are supplied in JEDEC TO-92 package (MPS5172, PN5172) and in JEDEC TO-98 package (2N5172, 2N6076).

Devices in TO-98 package are supplied with and without seating flange (see Dimensional Outline).

MAXIMUM RATINGS, *Absolute-Maximum Values:*

COLLECTOR TO EMITTER VOLTAGE (V_{CEO})	25 V
COLLECTOR TO BASE VOLTAGE (V_{CBO})	25 V
EMITTER TO BASE VOLTAGE (V_{EBO})	5 V
CONTINUOUS COLLECTOR CURRENT (I_C) (Note 1)	100 mA
TOTAL POWER DISSIPATION ($T_A \leq 25°C$) (P_T) (Note 2)	360 mW
OPERATING TEMPERATURE (T_J)	−55° to +150°C
STORAGE TEMPERATURE (T_{STG})	−55° to +150°C
LEAD TEMPERATURE, 1/16" ± 1/32" (1.58mm ± 0.8mm) from case for 10 sec. max. (T_L)	+260°C

NOTES:
1. Determined from power limitations due to saturation voltage at this current.
2. Derate 3.6mW/°C increase in ambient temperature above 25°C

File Number **2061**

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ELECTRICAL CHARACTERISTICS, At Ambient Temperature (T_A) = 25°C Unless Otherwise Specified

CHARACTERISTICS	SYMBOL	LIMITS MIN.	LIMITS MAX.	UNITS
Collector Cutoff Current (V_{CB} = 25V)	I_{CBO}	–	100	nA
(V_{CB} = 25V, T_A = 100°C)	I_{CBO}	–	10	μA
(V_{CB} = 25V, base-emitter junction short-circuited)	I_{CES}	–	100	nA
Emitter Cutoff Current (V_{EB} = 5V)—5172	I_{EBO}	–	100	nA
(V_{EB} = 3V)—6076	I_{EBO}	–	100	nA
DC Forward Current Transfer Ratio (V_{CE} = 10 V, I_C = 10 mA)	h_{FE}(1)	100	500	–
Collector Emitter Breakdown Voltage (I_C = 10 mA)	$V_{(BR)CEO}$	25	–	V
Collector Saturation Voltage (I_C = 10mA, I_B = 1 mA)	$V_{CE(sat)}$	–	0.25	V
Base Saturation Voltage (I_C = 10 mA, I_B = 1 mA)	$V_{BE(sat)}$	–	0.8	V
Base Emitter Voltage (V_{CE} = 10V, I_C = 10mA)	V_{BE}	0.5	1.2	V
Small-Signal Forward Current Transfer Ratio (V_{CE} = 10 V, I_C = 10 mA, f = 1 kHz)	h_{fe}	100	750	–
Output Capacitance, Common Base (V_{CB} = 10V, I_E = 0, f = 1 kHz)	C_{cb}	1	13	pF
Gain Bandwidth Product (V_{CB} = 5 V, I_C = 2 mA)	f_T	200 Typ.		MHz

(1) Typically a minimum of 50% of the distribution will have h_{FE} > 150 at stated conditions.
Note: Polarities are absolute.

TERMINAL CONNECTIONS

TO-92 Package
Lead 1 - Emitter
Lead 2 - Base
Lead 3 - Collector

TERMINAL CONNECTIONS

TO-98 Package
Lead 1 - Emitter
Lead 2 - Collector
Lead 3 - Base