

MA42141 Series Description

- Nominal $f_T = 4.5$ GHz
- Nominal Current Range = 1 to 10 mA
- I_C Max. = 50 mA
- Frequency Range = 300 MHz to 2.0 GHz
- Geometry = 63

The MA42141 NPN silicon planar transistor features excellent high frequency current gain at medium current levels.

The MA42141 series has low noise figures from the frequency range of 0.5 to 2 GHz. These transistors are useful in RF amplifiers and low level oscillators from 100 MHz to 2 GHz.

Maximum Ratings @ 25° C MA42141 Series

Parameter	Symbol	Unit	MA42141
Collector-Base Voltage	V_{CB0}	Volts	27
Collector-Emitter Voltage	V_{CEO}	Volts	20
Emitter-Base Voltage	V_{EBO}	Volts	3
Collector Current	I_C	mA	50
Junction Operating Temperature	T_j	°C	-65 to +150
Storage Temperature	T_S	°C	-65 to +200
Power Dissipation	P_D	mW	
Case Style 509			400
Case Style 510			700
Case Style 511			700

Specifications @ $T_A = 25^\circ\text{C}$

Model ¹ Number	Test Frequency (GHz)	Maximum ² Noise Figure (dB)	Maximum Unilateral Gain (dB)	Nominal $B_{V_{EBO}}$ (Volts)
MA42141	1.00	2.5	17	1.5

Notes:

- MA42141 is available in case styles 509, 510 and 511.
To order, add the case style as a suffix to the basic model number,
i.e.: MA42141-510.
- The collector current = 5 mA.



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Electrical Specifications @ 25° C

Parameter	Condition	Symbol	Min.	Typical	Max.	Unit
Collector Cut-off Current	$V_{CB} = 10$ V $I_E = 0$ μ A	I_{CB0}	—	—	200	nA
Emitter Cut-off Current	$V_{EB} = 1$ V $I_C = 0$ μ A	I_{EBO}	—	—	1.0	μ A
Forward Current Gain	$V_{CE} = 10$ V $I_C = 5$ mA	H_{FE}	20	80	200	—
Collector-Base Junction Capacitance	$V_{CB} = 5$ V $f = 1$ MHz	C_{OB}	—	0.8	1.0	pF

Specifications Subject to Change Without Notice.

M/A-COM, Inc.

North America: Tel. (800) 366-2266 ■ Asia/Pacific: Tel. +81 (03) 3226-1671 ■ Europe: Tel. +44 (1344) 869 595
 Fax (800) 618-8883 Fax +81 (03) 3226-1451 Fax +44 (1344) 300 020

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