

IMH20TR1G

Dual Bias Resistor Transistor

NPN Surface Mount

- Low V_{CC} (sat) 80 mV max at $I_C/I_B = 50$ mA/2.5 mA
- High Current: $I_C = 600$ mA max
- This is a Pb-Free Device

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

Rating	Symbol	Value	Unit
Collector-Base Voltage	$V_{(BR)CBO}$	30	Vdc
Collector-Emitter Voltage	$V_{(BR)CEO}$	15	Vdc
Emitter-Base Voltage	$V_{(BR)EBO}$	5.0	Vdc
Collector Current - Continuous	I_C	600	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Power Dissipation*	P_D	300	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

*Total for both Transistors.

Q1 + Q2: NPN

ELECTRICAL CHARACTERISTICS

($T_A = 25^\circ\text{C}$ unless otherwise noted)

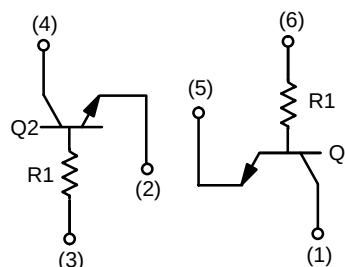
Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage ($I_C = 1.0$ mAdc, $I_B = 0$)	$V_{(BR)CEO}$	15	-	Vdc
Collector-Base Breakdown Voltage ($I_C = 50$ μ Adc, $I_E = 0$)	$V_{(BR)CBO}$	30	-	Vdc
Emitter-Base Breakdown Voltage ($I_E = 50$ μ Adc, $I_C = 0$)	$V_{(BR)EBO}$	5.0	-	Vdc
Collector-Base Cutoff Current ($V_{CB} = 20$ Vdc, $I_E = 0$)	I_{CBO}	-	0.5	μ Adc
Emitter-Base Cutoff Current ($V_{EB} = 4.0$ V, $I_C = 0$)	I_{EBO}	-	0.5	μ Adc
DC Current Gain (Note 1) ($V_{CE} = 5.0$ Vdc, $I_C = 50$ mAdc)	h_{FE}	100	600	-
Collector-Emitter Saturation Voltage ($I_C = 50$ mAdc, $I_B = 2.5$ mAdc)	$V_{CE(sat)}$	-	80	mV
Input Resistance	R_1	1.54	2.86	k Ω

1. Pulse Test: Pulse Width ≤ 300 μ s, D.C. $\leq 2\%$.



ON Semiconductor®

<http://onsemi.com>

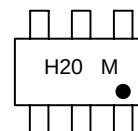


SC-74



SC-74R
318AA
Style 21

MARKING DIAGRAM



H20 = Specific Device Code
M = Date Code

ORDERING INFORMATION

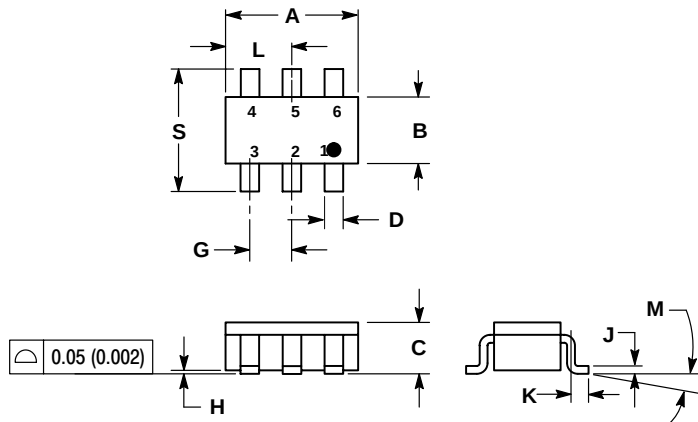
Device	Package	Shipping [†]
IMH20TR1G	SC-74R	3000/Tape & Reel

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

IMH20TR1G

PACKAGE DIMENSIONS

SC-74R CASE 318AA-01 ISSUE A



NOTES:

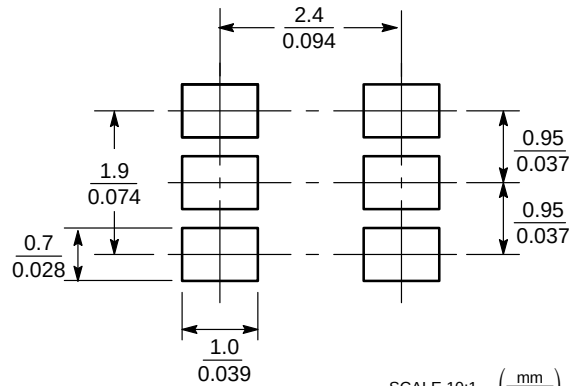
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1142	0.1220	2.90	3.10
B	0.0512	0.0669	1.30	1.70
C	0.0354	0.0433	0.90	1.10
D	0.0098	0.0197	0.25	0.50
G	0.0335	0.0413	0.85	1.05
H	0.0005	0.0040	0.013	0.100
J	0.0040	0.0102	0.10	0.26
K	0.0079	0.0236	0.20	0.60
L	0.0493	0.0649	1.25	1.65
M	0°	10°	0°	10°
S	0.0985	0.1181	2.50	3.00

STYLE 21:

- PIN 1. COLLECTOR 1
- EMITTER 2
- BASE 2
- COLLECTOR 2
- EMITTER 1
- BASE 1

SOLDERING FOOTPRINT*



SC-74R

SCALE 10:1 (mm/inches)

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERM/D.

ON Semiconductor and are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA

Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada

Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada

Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free
USA/Canada

Japan: ON Semiconductor, Japan Customer Focus Center

2-9-1 Kamimeguro, Meguro-ku, Tokyo, Japan 153-0051

Phone: 81-3-5773-3850

ON Semiconductor Website: <http://onsemi.com>

Order Literature: <http://www.onsemi.com/litorder>

For additional information, please contact your local Sales Representative.