# IMH20TR1G

# Dual Bias Resistor Transistor

## NPN Surface Mount

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

**MAXIMUM RATINGS** ($T_A$ = 25°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 | °C |
| Storage Temperature | $T_{stg}$ | −55 to +150 | °C |

*Total for both Transistors.

### Q1 + Q2: NPN

**ELECTRICAL CHARACTERISTICS**

($T_A$ = 25°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 μAdc, $I_E$ = 0) | $V_{(BR)CBO}$ | 30 | − | Vdc |
| Emitter−Base Breakdown Voltage ($I_E$ = 50 μAdc, $I_C$ = 0) | $V_{(BR)EBO}$ | 5.0 | − | Vdc |
| Collector−Base Cutoff Current ($V_{CB}$ = 20 Vdc, $I_E$ = 0) | $I_{CBO}$ | − | 0.5 | μAdc |
| Emitter−Base Cutoff Current ($V_{EB}$ = 4.0 V, $I_C$ = 0) | $I_{EBO}$ | − | 0.5 | μAdc |
| 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 | kΩ |

1. Pulse Test: Pulse Width ≤ 300 μs, D.C. ≤ 2%.

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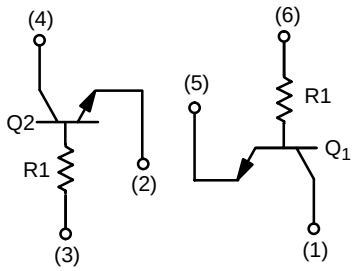
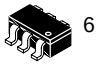
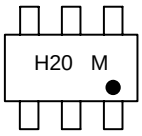



**SC−74**




**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.

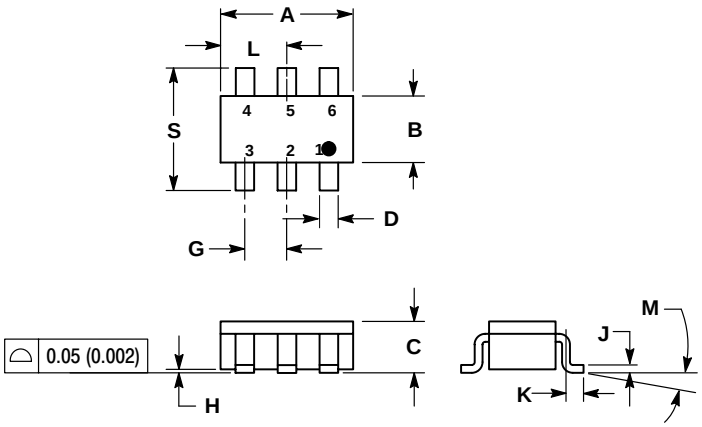

**January, 2004 − Rev. 0**

Publication Order Number:
**IMH20TR1G/D**

# IMH20TR1G

## PACKAGE DIMENSIONS

**SC−74R**
CASE 318AA−01
ISSUE A

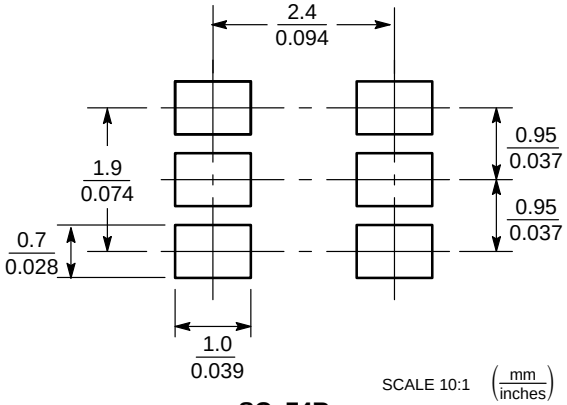



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

| | INCHES | | MILLIMETERS | |
|---|---|---|---|---|
| DIM | 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
2. EMITTER 2
3. BASE 2
4. COLLECTOR 2
5. EMITTER 1
6. BASE 1

### SOLDERING FOOTPRINT*




**SC−74R**

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



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