

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)

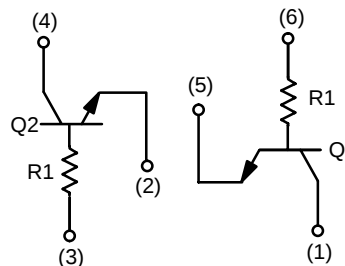
Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage ($I_C = 1.0$ mAdc, $I_E = 0$)	$V_{(BR)CEO}$	15	-	Vdc
Collector-Base Breakdown Voltage ($I_C = 50$ μ Adc, $I_E = 0$)	$V_{(BR)CBO}$	30	-	Vdc
Emitter-Base Breakdown Voltage ($I_E = 50$ μ Adc, $I_C = 0$)	$V_{(BR)EBO}$	5.0	-	Vdc
Collector-Base 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. $\leq 2\%$.

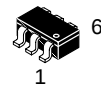


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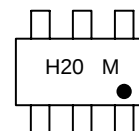


SC-74



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.

MECHANICAL CASE OUTLINE

PACKAGE DIMENSIONS

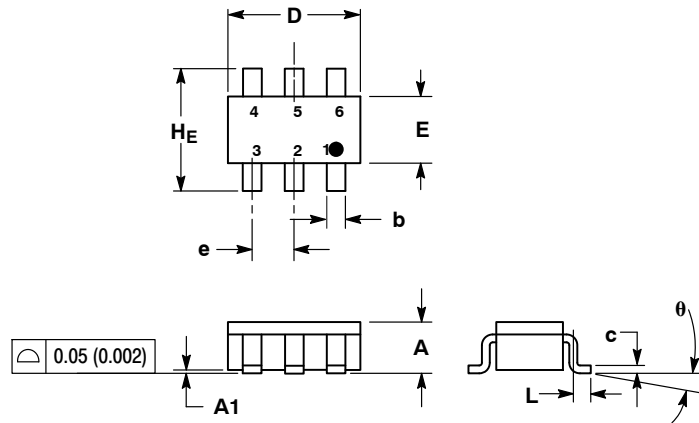
ON Semiconductor®



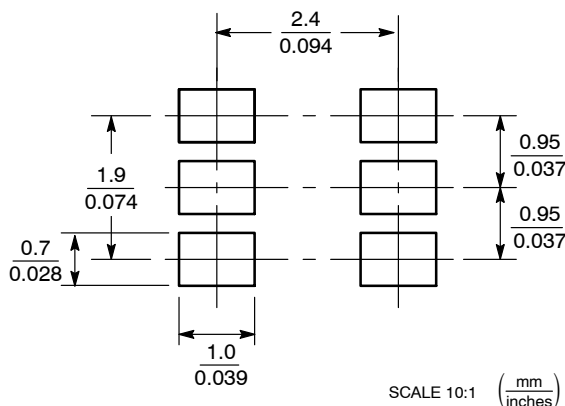
SCALE 2:1

SC-74R
CASE 318AA-01
ISSUE B

DATE 27 MAY 2005



SOLDERING FOOTPRINT*



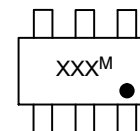
*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90	1.00	1.10	0.035	0.039	0.043
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.25	0.37	0.50	0.010	0.015	0.020
c	0.10	0.18	0.26	0.004	0.007	0.010
D	2.90	3.00	3.10	0.114	0.118	0.122
E	1.30	1.50	1.70	0.051	0.059	0.067
e	0.85	0.95	1.05	0.034	0.037	0.041
L	0.20	0.40	0.60	0.008	0.016	0.024
HE	2.50	2.75	3.00	0.099	0.108	0.118
θ	0°	—	10°	0°	—	10°

GENERIC MARKING DIAGRAM*



- XXX = Specific Device Code
M = Date Code
■ = Pb-Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "■", may or may not be present.

STYLE 20:
PIN 1. COLLECTOR 1
2. BASE 2
3. EMITTER 2
4. COLLECTOR 2
5. BASE 1
6. EMITTER 1

STYLE 21:
PIN 1. COLLECTOR 1
2. EMITTER 2
3. BASE 2
4. COLLECTOR 2
5. EMITTER 1
6. BASE 1

DOCUMENT NUMBER: 98AON13505D

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DESCRIPTION: SC-74R

PAGE 1 OF 1

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