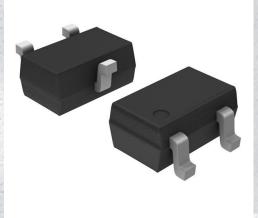


MUN5131T1G Datasheet

www.digi-electronics.com



https://www.DiGi-Electronics.com

DiGi Electronics Part Number MUN5131T1G-DG

Manufacturer onsemi

Manufacturer Product Number

MUN5131T1G

Description

TRANS PREBIAS PNP 50V SC70-3

Detailed Description

Pre-Biased Bipolar Transistor (BJT) PNP - Pre-Biase d 50 V 100 mA 202 mW Surface Mount SC-70-3 (SO

T323)



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.



Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
MUN5131T1G	onsemi
Series:	Product Status:
	Active
Transistor Type:	Current - Collector (Ic) (Max):
PNP - Pre-Biased	100 mA
Voltage - Collector Emitter Breakdown (Max):	Resistor - Base (R1):
50 V	2.2 kOhms
Resistor - Emitter Base (R2):	DC Current Gain (hFE) (Min) @ Ic, Vce:
2.2 kOhms	8 @ 5mA, 10V
Vce Saturation (Max) @ lb, lc:	Current - Collector Cutoff (Max):
250mV @ 5mA, 10mA	500nA
Power - Max:	Mounting Type:
202 mW	Surface Mount
Package / Case:	Supplier Device Package:
SC-70, SOT-323	SC-70-3 (SOT323)
Base Product Number:	
MUN5131	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0095	



Digital Transistors (BRT)

Digital Transistors (BRT) R1 = 2.2 k Ω , R2 = 2.2 k Ω

PNP Transistors with Monolithic Bias Resistor Network

MUN2131, MMUN2131L, MUN5131, DTA123EE, DTA123EM3, NSBA123EF3

This series of digital transistors is designed to replace a single device and its external resistor bias network. The Bias Resistor Transistor (BRT) contains a single transistor with a monolithic bias network consisting of two resistors; a series base resistor and a base–emitter resistor. The BRT eliminates these individual components by integrating them into a single device. The use of a BRT can reduce both system cost and board space.

Features

- Simplifies Circuit Design
- Reduces Board Space
- Reduces Component Count
- S and NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

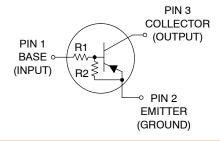
MAXIMUM RATINGS $(T_A = 25^{\circ}C)$

Rating	Symbol	Max	Unit
Collector-Base Voltage	V_{CBO}	50	Vdc
Collector-Emitter Voltage	V_{CEO}	50	Vdc
Collector Current – Continuous	Ic	100	mAdc
Input Forward Voltage	$V_{IN(fwd)}$	12	Vdc
Input Reverse Voltage	V _{IN(rev)}	10	Vdc

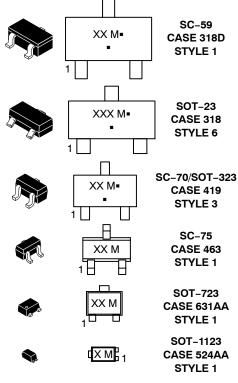
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1

PIN CONNECTIONS



MARKING DIAGRAMS



XXX = Specific Device Code

M = Date Code*
■ Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

See detailed ordering, marking, and shipping information in the package dimensions section on page 2 of this data sheet.

^{*}Date Code orientation may vary depending upon manufacturing location.

Table 1. ORDERING INFORMATION

Device	Part Marking	Package	Shipping [†]
MUN2131T1G	6H	SC-59 (Pb-Free)	3000 / Tape & Reel
MMUN2131LT1G, NSVMMUN2131LT1G*	A6H	SOT-23 (Pb-Free)	3000 / Tape & Reel
MUN5131T1G, NSVMUN5131T1G*	6H	SC-70/SOT-323 (Pb-Free)	3000 / Tape & Reel
DTA123EET1G	6H	SC-75 (Pb-Free)	3000 / Tape & Reel
DTA123EM3T5G, NSVDTA123EM3T5G*	6H	SOT-723 (Pb-Free)	8000 / Tape & Reel
NSBA123EF3T5G	P (180°)**	SOT-1123 (Pb-Free)	8000 / 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.

^{**} (xx°) = Degree rotation in the clockwise direction.

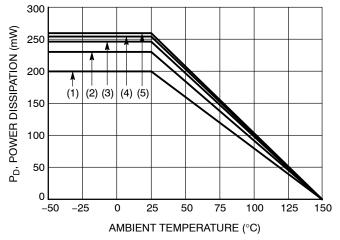


Figure 1. Derating Curve

- (1) SC-75 and SC-70/SOT323; Minimum Pad
- (2) SC-59; Minimum Pad
- (3) SOT-23; Minimum Pad
- (4) SOT-1123; 100 mm², 1 oz. copper trace
- (5) SOT-723; Minimum Pad

Table 2. THERMAL CHARACTERISTICS

Characteristic		Symbol	Max	Unit
THERMAL CHARACTERISTICS (SC-59) (MUN2131)			•	
Total Device Dissipation $T_A = 25^{\circ}C$ Derate above 25°C	(Note 1) (Note 2) (Note 1) (Note 2)	P _D	230 338 1.8 2.7	mW mW/°C
Thermal Resistance, Junction to Ambient	(Note 1) (Note 2)	$R_{ hetaJA}$	540 370	°C/W
Thermal Characterization Parameter, Junction to Lead Thermal Characterization Parameter, Junction to Top		$\Psi_{JL} \ \Psi_{JT}$	264 287	°C/W
Junction and Storage Temperature Range		T _J , T _{stg}	-55 to +150	°C
THERMAL CHARACTERISTICS (SOT-23) (MMUN2131L)				
Total Device Dissipation $T_A = 25^{\circ}C$ Derate above 25°C	(Note 1) (Note 2) (Note 1) (Note 2)	P _D	246 400 2.0 3.2	mW mW/°C
Thermal Resistance, Junction to Ambient	(Note 1) (Note 2)	$R_{ hetaJA}$	508 311	°C/W
Thermal Characterization Parameter, Junction to Lead Thermal Characterization Parameter, Junction to Top		$\Psi_{JL} \ \Psi_{JT}$	174 208	°C/W
Junction and Storage Temperature Range		T _J , T _{stg}	-55 to +150	°C
THERMAL CHARACTERISTICS (SC-70/SOT-323) (MUN5131)				
Total Device Dissipation $T_A = 25^{\circ}C$ Derate above 25°C	(Note 1) (Note 2) (Note 1) (Note 2)	P _D	202 310 1.6 2.5	mW mW/°C
Thermal Resistance, Junction to Ambient	(Note 1) (Note 2)	$R_{ hetaJA}$	618 403	°C/W
Thermal Characterization Parameter, Junction to Lead Thermal Characterization Parameter, Junction to Top		$\Psi_{JL} \ \Psi_{JT}$	280 332	°C/W
Junction and Storage Temperature Range		T _J , T _{stg}	-55 to +150	°C
THERMAL CHARACTERISTICS (SC-75) (DTA123EE)				
Total Device Dissipation $T_A = 25^{\circ}C$ Derate above 25°C	(Note 1) (Note 2) (Note 1) (Note 2)	P _D	200 300 1.6 2.4	mW mW/°C
Thermal Resistance, Junction to Ambient	(Note 1) (Note 2)	$R_{ hetaJA}$	600 400	°C/W
Thermal Characterization Parameter, Junction to Lead Thermal Characterization Parameter, Junction to Top		$\Psi_{ m JL}$ $\Psi_{ m JT}$	277 245	°C/W
Junction and Storage Temperature Range		T _J , T _{stg}	-55 to +150	°C
THERMAL CHARACTERISTICS (SOT-723) (DTA123EM3)				
Total Device Dissipation $T_A = 25^{\circ}C$	(Note 1) (Note 2)	P _D	260 600	mW
Derate above 25°C	(Note 2) (Note 1) (Note 2)		2.0 4.8	mW/°C

- 1. FR-4 @ Minimum Pad.
- FR-4 @ 1.0 x 1.0 Inch Pad.
 FR-4 @ 100 mm², 1 oz. copper traces, still air.
 FR-4 @ 500 mm², 1 oz. copper traces, still air.

Table 2. THERMAL CHARACTERISTICS

Characteristic		Symbol	Max	Unit
THERMAL CHARACTERISTICS (SOT-723) (DTA123EM3)				
Thermal Resistance, Junction to Ambient	(Note 1) (Note 2)	R_{\thetaJA}	480 205	°C/W
Junction and Storage Temperature Range		T _J , T _{stg}	-55 to +150	°C
THERMAL CHARACTERISTICS (SOT-1123) (NSBA123EF3)				
Total Device Dissipation $T_A = 25^{\circ}C$ Derate above 25°C	(Note 3) (Note 4) (Note 3) (Note 4)	P _D	254 297 2.0 2.4	mW mW/°C
Thermal Resistance, Junction to Ambient	(Note 3) (Note 4)	$R_{ hetaJA}$	493 421	°C/W
Thermal Characterization Parameter, Junction to Lead Thermal Characterization Parameter, Junction to Top		$\Psi_{\sf JL} \ \Psi_{\sf JT}$	110 85	°C/W
Junction and Storage Temperature Range		T _J , T _{stg}	-55 to +150	°C

- 1. FR-4 @ Minimum Pad.
- 2. FR-4 @ 1.0 x 1.0 Inch Pad.
- FR-4 @ 100 mm², 1 oz. copper traces, still air.
 FR-4 @ 500 mm², 1 oz. copper traces, still air.

Table 3. ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C, unless otherwise noted)

Characteristic	Symbol	Min	Тур	Max	Unit
OFF CHARACTERISTICS			-		
Collector-Base Cutoff Current $(V_{CB} = 50 \text{ V, } I_E = 0)$	I _{CBO}	_	_	100	nAdc
Collector-Emitter Cutoff Current (V _{CE} = 50 V, I _B = 0)	I _{CEO}	_	_	500	nAdc
Emitter-Base Cutoff Current (V _{EB} = 6.0 V, I _C = 0)	I _{EBO}	-	-	2.3	mAdc
Collector–Base Breakdown Voltage ($I_C = 10 \mu A, I_E = 0$)	V _(BR) CBO	50	_	-	Vdc
Collector–Emitter Breakdown Voltage (Note 5) (I _C = 2.0 mA, I _B = 0)	V _(BR) CEO	50	_	-	Vdc
ON CHARACTERISTICS			-		
DC Current Gain (Note 5) (I _C = 5.0 mA, V _{CE} = 10 V)	h _{FE}	8.0	15	-	
Collector–Emitter Saturation Voltage (Note 5) $(I_C = 10 \text{ mA}, I_B = 5.0 \text{ mA})$	V _{CE(sat)}	-	_	0.25	Vdc
Input Voltage (off) $(V_{CE} = 5.0 \text{ V}, I_{C} = 100 \mu\text{A})$	$V_{i(off)}$	-	1.2	0.5	Vdc
Input Voltage (on) $(V_{CE} = 0.3 \text{ V}, I_{C} = 20 \text{ mA})$	V _{i(on)}	2.0	1.7	-	Vdc
Output Voltage (on) $(V_{CC} = 5.0 \text{ V}, V_B = 2.5 \text{ V}, R_L = 1.0 \text{ k}\Omega)$	V _{OL}	-	-	0.2	Vdc
Output Voltage (off) $(V_{CC} = 5.0 \text{ V}, V_B = 0.25 \text{ V}, R_L = 1.0 \text{ k}\Omega)$	V _{OH}	4.9	-	-	Vdc
Input Resistor	R1	1.5	2.2	2.9	kΩ
Resistor Ratio	R ₁ /R ₂	0.8	1.0	1.2	

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

5. Pulsed Condition: Pulse Width = 300 msec, Duty Cycle ≤ 2%.

TYPICAL CHARACTERISTICS MUN2131, MMUN2131L, MUN5131, DTA123EE, DTA123EM3

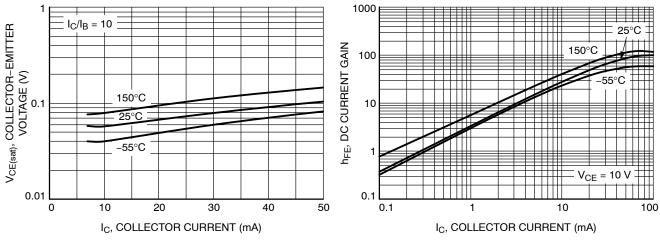


Figure 2. V_{CE(sat)} vs. I_C

Figure 3. DC Current Gain

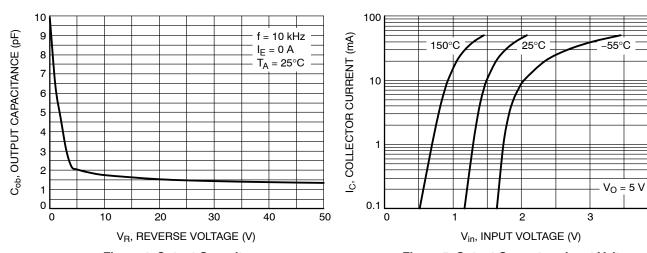


Figure 4. Output Capacitance

Figure 5. Output Current vs. Input Voltage

4

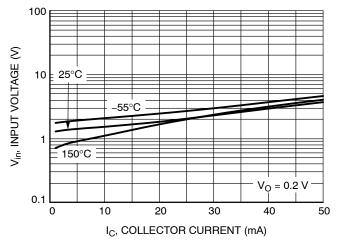


Figure 6. Input Voltage vs. Output Current

CASE 419 ISSUE R



MECHANICAL CASE OUTLINE

PACKAGE DIMENSIONS

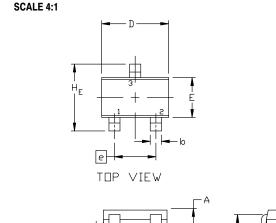


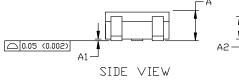
DATE 11 OCT 2022

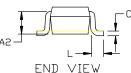
NOTES:

- 1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1982.
- 2. CONTROLLING DIMENSION: INCH

	MILLIMETERS				INCHES	
DIM	MIN.	N□M.	MAX.	MIN.	N□M.	MAX.
Α	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70 REF			0.028 BSC		
b	0.30	0.35	0.40	0.012	0.014	0.016
С	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.00	2.20	0.071	0.080	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
е	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC				0.026 BS	C
L	0.20	0.38	0.56	0.008	0.015	0.022
HE	2.00	2.10	2.40	0.079	0.083	0.095







GENERIC MARKING DIAGRAM

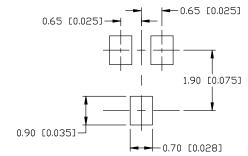


XX = Specific Device Code

М = 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. Some products may not follow the Generic Marking.



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

SOLDERING FOOTPRINT

STYLE 1: CANCELLED	STYLE 2: PIN 1. ANODE 2. N.C. 3. CATHODE	STYLE 3: PIN 1. BASE 2. EMITTER 3. COLLECTOR	STYLE 4: PIN 1. CATHODE 2. CATHODE 3. ANODE	STYLE 5: PIN 1. ANODE 2. ANODE 3. CATHODE	
STYLE 6:	STYLE 7:	STYLE 8:	STYLE 9:	STYLE 10:	STYLE 11:
PIN 1. EMITTER	PIN 1. BASE	PIN 1. GATE	PIN 1. ANODE	PIN 1. CATHODE	PIN 1. CATHODE
2. BASE	2. EMITTER	2. SOURCE	2. CATHODE	2. ANODE	CATHODE
COLLECTOR	COLLECTOR	3. DRAIN	CATHODE-ANODE	3. ANODE-CATHODE	CATHODE

DOCUMENT NUMBER:	98ASB42819B	Electronic versions are uncontrolled except when accessed directly from the Document Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.		
DESCRIPTION:	SC-70 (SOT-323)		PAGE 1 OF 1	

onsemi and ONSEMI are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves brisefin and of 160 m are trademarked so defined values of services and of the confined values and of the values of the confined values and of the values of the confined values and of the values of the v special, consequential or incidental damages. onsemi does not convey any license under its patent rights nor the rights of others.



MECHANICAL CASE OUTLINE

PACKAGE DIMENSIONS

SC75-3 1.60x0.80x0.80, 1.00P

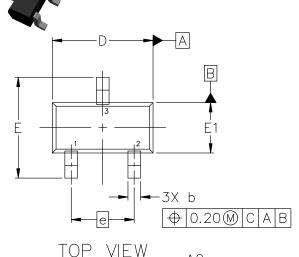
CASE 463 ISSUE H

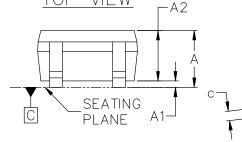
DATE 01 FEB 2024

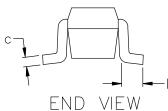
NOTES:

- DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5-2018.
- ALL DIMENSION ARE IN MILLIMETERS.

DIM	MILLIMETERS				
DIIVI	MIN.	NOM.	MAX.		
А	0.70	0.80	0.90		
A1	0.00	0.05	0.10		
A2	0.80 REF.				
b	0.15	0.20	0.30		
С	0.10	0.15	0.25		
D	1.55	1.60	1.65		
Е	1.50	1.60	1.70		
E1	0.70	0.80	0.90		
е	1.00 BSC				
L	0.10	0.15	0.20		







GENERIC MARKING DIAGRAM*

SIDE VIEW



XX = Specific Device Code

Μ = 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. Some products may not follow the Generic Marking.

STYLE 1:	
PIN 1. BASE	
EMITTER	

3 COLLECTOR

STYLE 2: PIN 1. ANODE 2. N/C 3. CATHODE STYLE 3: PIN 1. ANODE 2. ANODE 3 CATHODE

-0.356 1.803 0.787 0.508 1.000

RECOMMENDED MOUNTING 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.

STYLE 4:	STYLE 5:
PIN 1. CATHODE	PIN 1. GATE
CATHODE	SOURCE
ANODE	DRAIN

DOCUMENT NUMBER: 98ASB15184C

Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.

DESCRIPTION:

SC75-3 1.60x0.80x0.80, 1.00P

PAGE 1 OF 1

onsemi and ONSEMI are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves the right to make changes without further notice to any products herein. **onsemi** makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does **onsemi** 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. onsemi does not convey any license under its patent rights nor the rights of others.



ТПР

MECHANICAL CASE OUTLINE

PACKAGE DIMENSIONS

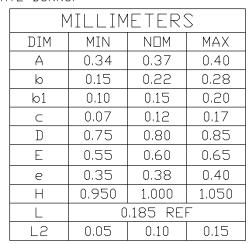


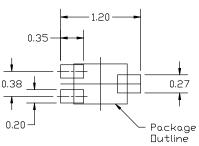
SOT-1123 0.80x0.60x0.37, 0.35P CASE 524AA ISSUE D

DATE 18 JAN 2024

NOTES:

- 1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
- CONTROLLING DIMENSION: MILLIMETERS. 2.
- MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
- DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.



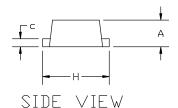


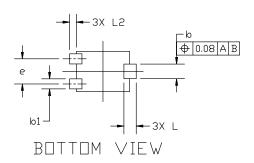
RECOMMENDED MOUNTING FOOTPRINT

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

В

VIEW





GENERIC MARKING DIAGRAM*



= Specific Device Code = Date Code

*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. Some products may not follow the Generic Marking.

STYLE 1:			
PIN 1. BASE			
EMITTER			
3 COLLECTOR			

STYLE 2: PIN 1. ANODE 2. N/C 3. CATHODE STYLE 3: PIN 1. ANODE 2. ANODE 3. CATHODE

STYLE 4: PIN 1. CATHODE 2. CATHODE 3. ANODE

STYLE 5: PIN 1. GATE 2. SOURCE

DOCUMENT NUMBER:	98AON23134D	Electronic versions are uncontrolled except when accessed directly fron Printed versions are uncontrolled except when stamped "CONTROLLEI	
DESCRIPTION:	SOT-1123 0.80x0.60x0.37, 0.35P		PAGE 1 OF 1

onsemi and Onsemi are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries, onsemi reserves the right to make changes without further notice to any products herein. **onsemi** makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does **onsemi** 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. onsemi does not convey any license under its patent rights nor the rights of others.



MECHANICAL CASE OUTLINE

PACKAGE DIMENSIONS



SOT-723 1.20x0.80x0.50, 0.40P CASE 631AA ISSUE E

DATE 24 JAN 2024

MAX.

0.55

0.27

0.37

0.17

1.25

0.85

1.25

0.25

MILLIMETERS

 $N\square M$.

0.50

0.21

0.31

0.12

1.20

0.80

0.40 BSC

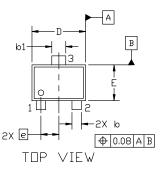
1.20

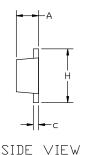
0.29 REF

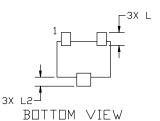
0.20

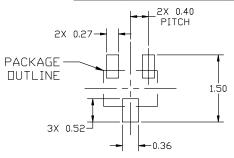
NOTES:

- 1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
- 2. CONTROLLING DIMENSION: MILLIMETERS.
- 3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
- 4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.









DIM

Α

b

b1

c D

Ε

e H

L2

MIN.

0.45

0.15

0.25

0.07

1.15

0.75

1.15

0.15

RECOMMENDED MOUNTING FOOTPRINT

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

GENERIC MARKING DIAGRAM*



XX = Specific Device Code M = Date Code

*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. Some products may not follow the Generic Marking.

STYLE 1: STYLE 2: STYLE 3: STYLE 4: STYLE 5: PIN 1. GATE 2. SOURCE PIN 1. BASE PIN 1. ANODE PIN 1. ANODE PIN 1. CATHODE 2 FMITTER 2 CATHODE 2 N/C 2. ANODE 3. COLLECTOR 3. CATHODE 3. CATHODE 3. DRAIN

DOCUMENT NUMBER:	98AON12989D	Electronic versions are uncontrolled except when accessed directly from Printed versions are uncontrolled except when stamped "CONTROLLED"	
DESCRIPTION:	SOT-723 1.20x0.80x0.50, 0.40P		PAGE 1 OF 1

onsemi and ONSEMI are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves the right to make changes without further notice to any products herein. onsemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does onsemi 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. onsemi does not convey any license under its patent rights nor the rights of others.

onsemi, ONSEMI, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "onsemi" or its affiliates and/or subsidiaries in the United States and/or other countries. onsemi owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of onsemi's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. onsemi reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and onsemi makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** 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. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** 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. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** 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 onsemi was negligent regarding the design or manufacture of the part. onsemi is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:

 $\textbf{Technical Library:} \ \underline{www.onsemi.com/design/resources/technical-documentation}$

onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support

For additional information, please contact your local Sales Representative at

www.onsemi.com/support/sales



OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com

















Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com