

# Digital Transistors (BRT)

## R1 = 47 kΩ, R2 = 22 kΩ

### NPN Transistors with Monolithic Bias Resistor Network

## MUN2237, MMUN2237L, MUN5237, DTC144WE, DTC144WM3, NSBC144WF3

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

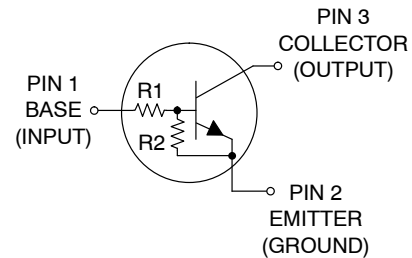
- Simplifies Circuit Design
- Reduces Board Space
- Reduces Component Count
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

#### MAXIMUM RATINGS (T<sub>A</sub> = 25 °C)

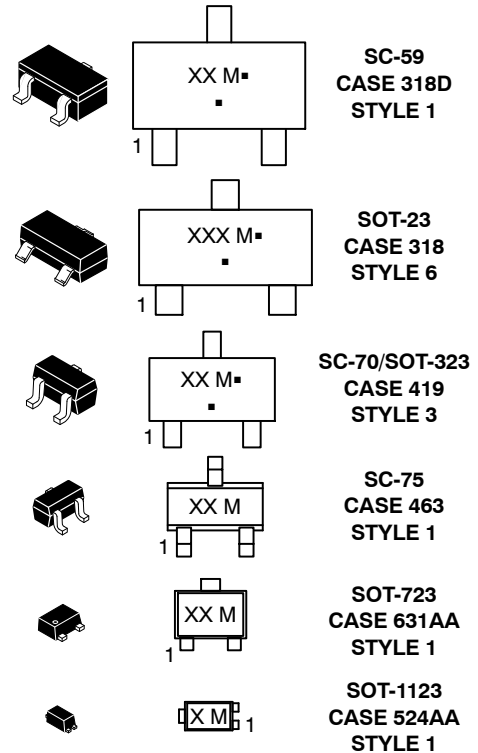
Rating	Symbol	Max	Unit
Collector-Base Voltage	V <sub>CBO</sub>	50	Vdc
Collector-Emitter Voltage	V <sub>CEO</sub>	50	Vdc
Collector Current – Continuous	I <sub>C</sub>	100	mAdc
Input Forward Voltage	V <sub>IN(fwd)</sub>	40	Vdc
Input Reverse Voltage	V <sub>IN(rev)</sub>	10	Vdc

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.

#### PIN CONNECTIONS



#### MARKING DIAGRAMS



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

(Note: Microdot may be in either location)

\* Date Code orientation may vary depending upon manufacturing location.

#### ORDERING INFORMATION

See detailed ordering, marking, and shipping information on page 2 of this data sheet.

NOTE: Some of the devices on this data sheet have been **DISCONTINUED**. Please refer to the table on page 2.

# MUN2237, MMUN2237L, MUN5237, DTC144WE, DTC144WM3, NSBC144WF3

**Table 1. ORDERING INFORMATION**

Device	Part Marking	Package	Shipping†
NSVMUN2237T1G*	8P	SC-59 (Pb-Free)	3000 / Tape & Reel
NSVMMUN2237LT1G*	AA3	SOT-23 (Pb-Free)	3000 / Tape & Reel
MUN5237T1G, NSVMUN5237T1G*	8P	SC-70/SOT-323 (Pb-Free)	3000 / Tape & Reel

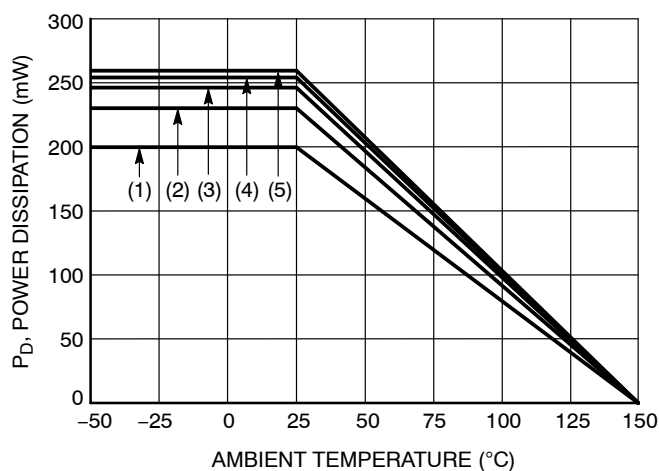
**DISCONTINUED** (Note 1)

MUN2237T1G	8P	SC-59 (Pb-Free)	3000 / Tape & Reel
MMUN2237LT1G	AA3	SOT-23 (Pb-Free)	3000 / Tape & Reel
DTC144WET1G, NSVDTC144WET1G*	8P	SC-75 (Pb-Free)	3000 / Tape & Reel
DTC144WM3T5G	8P	SOT-723 (Pb-Free)	8000 / Tape & Reel
NSBC144WF3T5G	Q	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](#).

\* NSV Prefixes for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

1. **DISCONTINUED:** These devices are not available. Please contact your **onsemi** representative for information. The most current information on these devices may be available on [www.onsemi.com](http://www.onsemi.com).



- (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

**Figure 1. Derating Curve**

# MUN2237, MMUN2237L, MUN5237, DTC144WE, DTC144WM3, NSBC144WF3

**Table 2. THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
<b>THERMAL CHARACTERISTICS (SC-59) (MUN2237)</b>			
Total Device Dissipation $T_A = 25\text{ }^{\circ}\text{C}$ Derate above $25\text{ }^{\circ}\text{C}$	$P_D$ (Note 2) (Note 3) (Note 2) (Note 3)	230 338 1.8 2.7	mW mW/ $^{\circ}\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$ (Note 2) (Note 3)	540 370	$^{\circ}\text{C/W}$
Thermal Resistance, Junction to Lead	$R_{\theta JL}$ (Note 2) (Note 3)	264 287	$^{\circ}\text{C/W}$
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	$^{\circ}\text{C}$
<b>THERMAL CHARACTERISTICS (SOT-23) (MMUN2237L)</b>			
Total Device Dissipation $T_A = 25\text{ }^{\circ}\text{C}$ Derate above $25\text{ }^{\circ}\text{C}$	$P_D$ (Note 2) (Note 3) (Note 2) (Note 3)	246 400 2.0 3.2	mW mW/ $^{\circ}\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$ (Note 1) (Note 3)	508 311	$^{\circ}\text{C/W}$
Thermal Resistance, Junction to Lead	$R_{\theta JL}$ (Note 2) (Note 3)	174 208	$^{\circ}\text{C/W}$
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	$^{\circ}\text{C}$
<b>THERMAL CHARACTERISTICS (SC-70/SOT-323) (MUN5237)</b>			
Total Device Dissipation $T_A = 25\text{ }^{\circ}\text{C}$ Derate above $25\text{ }^{\circ}\text{C}$	$P_D$ (Note 2) (Note 3) (Note 2) (Note 3)	202 310 1.6 2.5	mW mW/ $^{\circ}\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$ (Note 2) (Note 3)	618 403	$^{\circ}\text{C/W}$
Thermal Resistance, Junction to Lead	$R_{\theta JL}$ (Note 2) (Note 3)	280 332	$^{\circ}\text{C/W}$
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	$^{\circ}\text{C}$
<b>THERMAL CHARACTERISTICS (SC-75) (DTC144WE)</b>			
Total Device Dissipation $T_A = 25\text{ }^{\circ}\text{C}$ Derate above $25\text{ }^{\circ}\text{C}$	$P_D$ (Note 2) (Note 3) (Note 2) (Note 3)	200 300 1.6 2.4	mW mW/ $^{\circ}\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$ (Note 2) (Note 3)	600 400	$^{\circ}\text{C/W}$
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	$^{\circ}\text{C}$
<b>THERMAL CHARACTERISTICS (SOT-723) (DTC144WM3)</b>			
Total Device Dissipation $T_A = 25\text{ }^{\circ}\text{C}$ Derate above $25\text{ }^{\circ}\text{C}$	$P_D$ (Note 2) (Note 3) (Note 2) (Note 3)	260 600 2.0 4.8	mW mW/ $^{\circ}\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$ (Note 2) (Note 3)	480 205	$^{\circ}\text{C/W}$

2. FR-4 @ Minimum Pad.
3. FR-4 @ 1.0 x 1.0 Inch Pad.
4. FR-4 @ 100 mm<sup>2</sup>, 1 oz. copper traces, still air.
5. FR-4 @ 500 mm<sup>2</sup>, 1 oz. copper traces, still air.

**Table 2. THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
<b>THERMAL CHARACTERISTICS (SOT-723) (DTC144WM3)</b>			
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	°C
<b>THERMAL CHARACTERISTICS (SOT-1123) (NSBC144WF3)</b>			
Total Device Dissipation $T_A = 25\text{ °C}$ (Note 5) Derate above 25 °C (Note 5)	$P_D$  (Note 4) (Note 4)	254 297 2.0 2.4	mW  mW/°C
Thermal Resistance, Junction to Ambient (Note 4) (Note 5)	$R_{\theta JA}$	493 421	°C/W
Thermal Resistance, Junction to Lead (Note 4)	$R_{\theta JL}$	193	°C/W
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	°C

2. FR-4 @ Minimum Pad.
3. FR-4 @ 1.0 x 1.0 Inch Pad.
4. FR-4 @ 100 mm<sup>2</sup>, 1 oz. copper traces, still air.
5. FR-4 @ 500 mm<sup>2</sup>, 1 oz. copper traces, still air.

**Table 3. ELECTRICAL CHARACTERISTICS** ( $T_A = 25\text{ °C}$ , unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>					
Collector-Base Cutoff Current ( $V_{CB} = 50\text{ V}$ , $I_E = 0$ )	$I_{CBO}$	–	–	100	nAdc
Collector-Emitter Cutoff Current ( $V_{CE} = 50\text{ V}$ , $I_B = 0$ )	$I_{CEO}$	–	–	500	nAdc
Emitter-Base Cutoff Current ( $V_{EB} = 6.0\text{ V}$ , $I_C = 0$ )	$I_{EBO}$	–	–	0.13	mAdc
Collector-Base Breakdown Voltage ( $I_C = 10\text{ }\mu\text{A}$ , $I_E = 0$ )	$V_{(BR)CBO}$	50	–	–	Vdc
Collector-Emitter Breakdown Voltage (Note 6) ( $I_C = 2.0\text{ mA}$ , $I_B = 0$ )	$V_{(BR)CEO}$	50	–	–	Vdc
<b>ON CHARACTERISTICS</b>					
DC Current Gain (Note 6) ( $I_C = 5.0\text{ mA}$ , $V_{CE} = 10\text{ V}$ )	$h_{FE}$	80	140	–	
Collector – Emitter Saturation Voltage (Note 6) ( $I_C = 10\text{ mA}$ , $I_B = 5.0\text{ mA}$ )	$V_{CE(sat)}$	–	–	0.25	Vdc
Input Voltage (off) ( $V_{CE} = 5.0\text{ V}$ , $I_C = 100\text{ }\mu\text{A}$ )	$V_{i(off)}$	–	1.8	1.2	Vdc
Input Voltage (on) ( $V_{CE} = 0.3\text{ V}$ , $I_C = 2.0\text{ mA}$ )	$V_{i(on)}$	4.0	2.3	–	Vdc
Output Voltage (on) ( $V_{CC} = 5.0\text{ V}$ , $V_B = 4.0\text{ V}$ , $R_L = 1.0\text{ k}\Omega$ )	$V_{OL}$	–	–	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	$R_1$	32.9	47	61.1	k $\Omega$
Resistor Ratio	$R_1/R_2$	1.7	2.1	2.6	

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.

6. Pulsed Condition: Pulse Width = 300 msec, Duty Cycle  $\leq 2\%$ .

TYPICAL CHARACTERISTICS  
MUN2237, MMUN2237L, MUN5237, DTC144WE, DTC144WM3

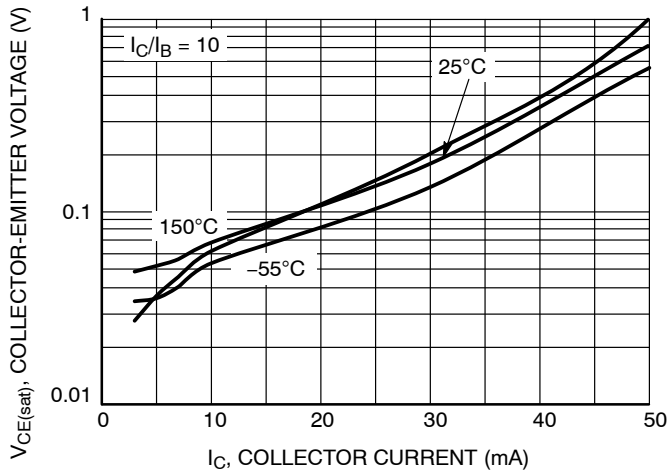


Figure 2.  $V_{CE(sat)}$  vs.  $I_C$

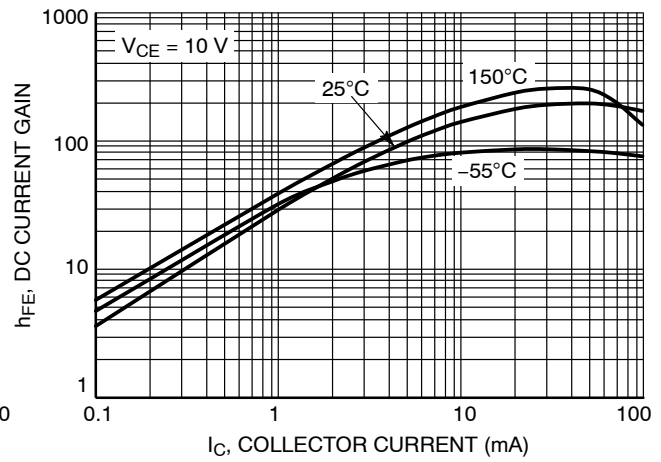


Figure 3. DC Current Gain

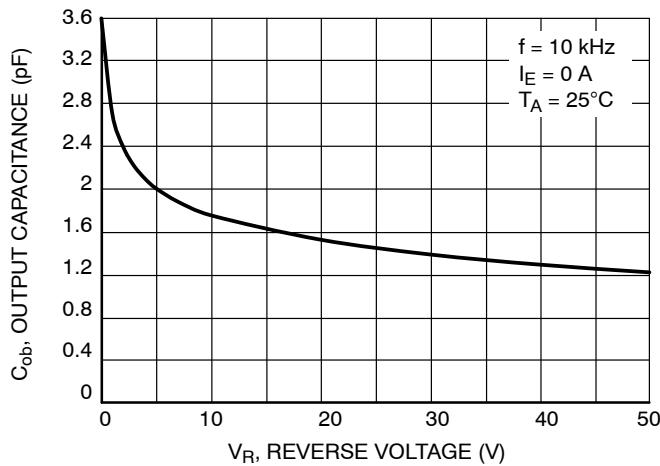


Figure 4. Output Capacitance

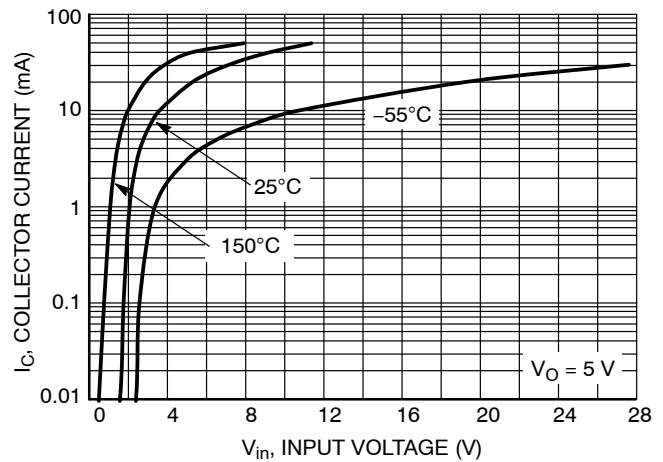


Figure 5. Output Current vs. Input Voltage

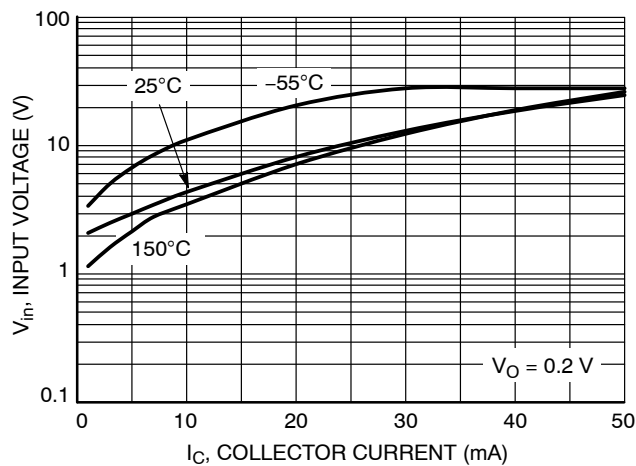


Figure 6. Input Voltage vs. Output Current

TYPICAL CHARACTERISTICS  
NSBC144WF3

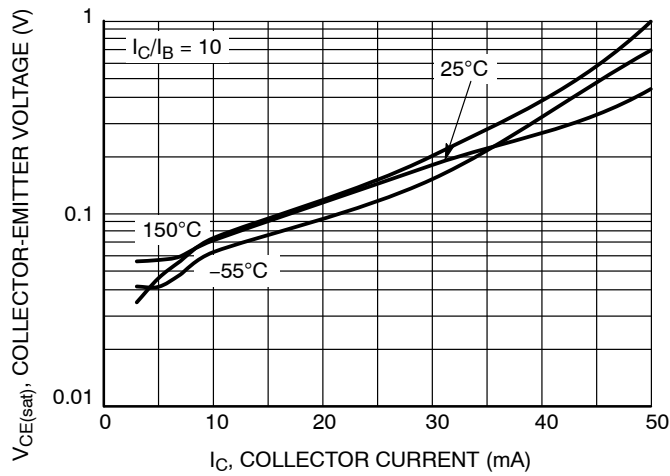


Figure 7.  $V_{CE(sat)}$  vs.  $I_C$

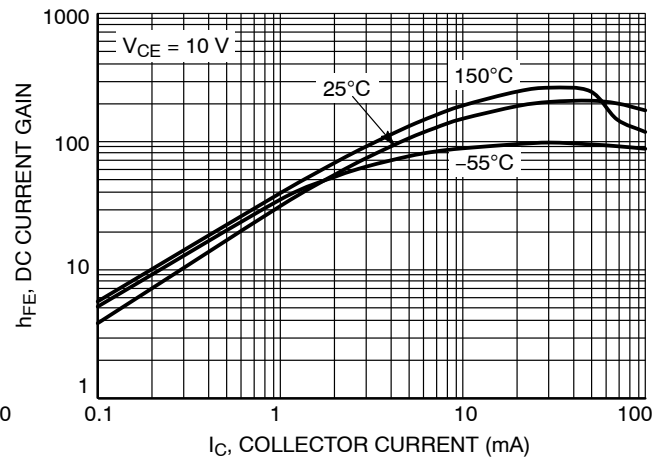


Figure 8. DC Current Gain

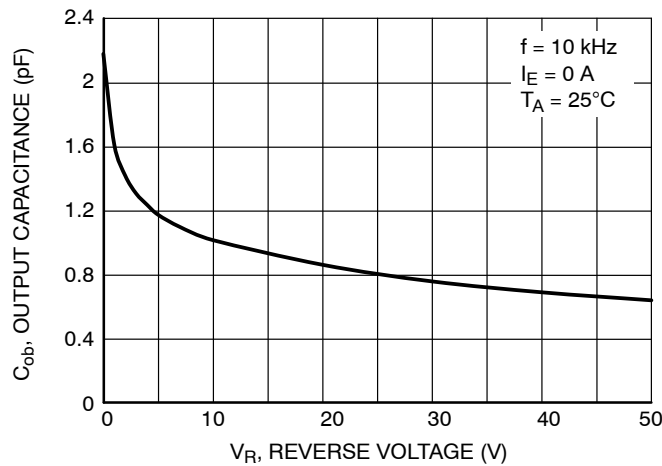


Figure 9. Output Capacitance

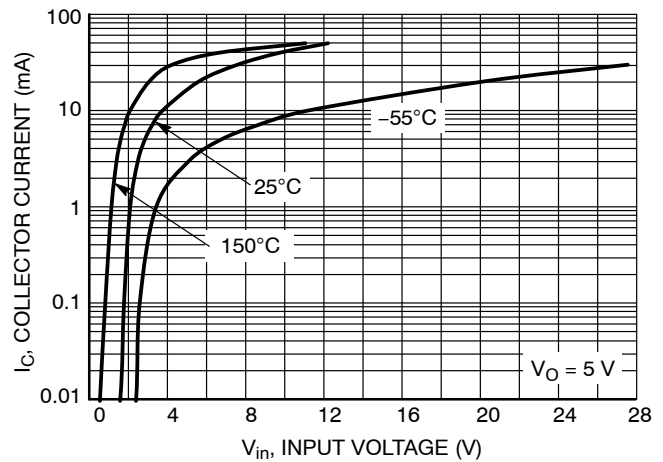


Figure 10. Output Current vs. Input Voltage

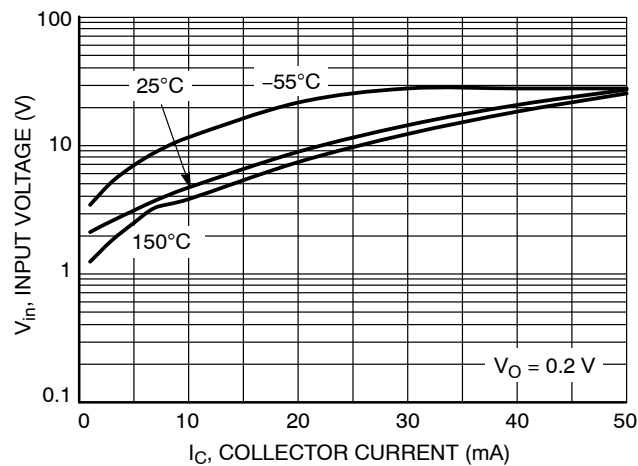


Figure 11. Input Voltage vs. Output Current

# MUN2237, MMUN2237L, MUN5237, DTC144WE, DTC144WM3, NSBC144WF3

## REVISION HISTORY

Revision	Description of Changes	Date
7	Rebranded the Data Sheet to <b>onsemi</b> format. MUN2237T1G, MMUN2237LT1G, DTC144WET1G, NSVDTC144WET1G, DTC144WM3T5G, NSBC144WF3T5G OPNs Marked as Discontinued.	06/19/2025

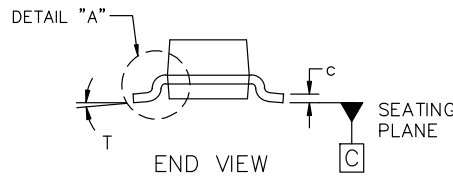
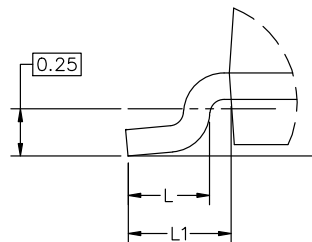
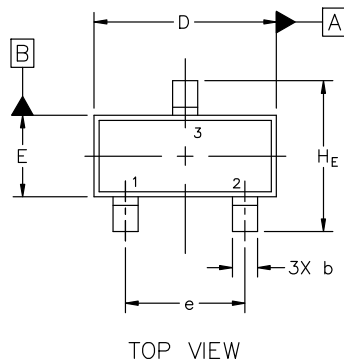


SCALE 4:1

### SOT-23 (TO-236) 2.90x1.30x1.00 1.90P

CASE 318  
ISSUE AU

DATE 14 AUG 2024

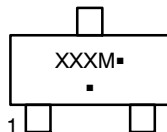


MILLIMETERS			
DIM	MIN	NOM	MAX
A	0.89	1.00	1.11
A1	0.01	0.06	0.10
b	0.37	0.44	0.50
c	0.08	0.14	0.20
D	2.80	2.90	3.04
E	1.20	1.30	1.40
e	1.78	1.90	2.04
L	0.30	0.43	0.55
L1	0.35	0.54	0.69
HE	2.10	2.40	2.64
T	0°	---	10°

#### NOTES:

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

#### 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. Some products may not follow the Generic Marking.



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

## STYLES ON PAGE 2

DOCUMENT NUMBER:	98ASB42226B	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.
DESCRIPTION:	SOT-23 (TO-236) 2.90x1.30x1.00 1.90P	PAGE 1 OF 2

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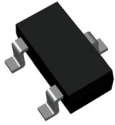
**SOT-23 (TO-236) 2.90x1.30x1.00 1.90P**  
**CASE 318**  
**ISSUE AU**

DATE 14 AUG 2024

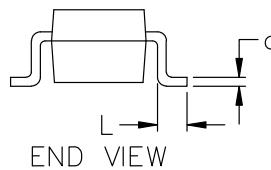
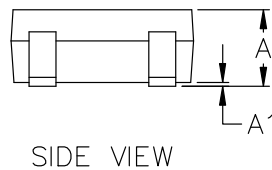
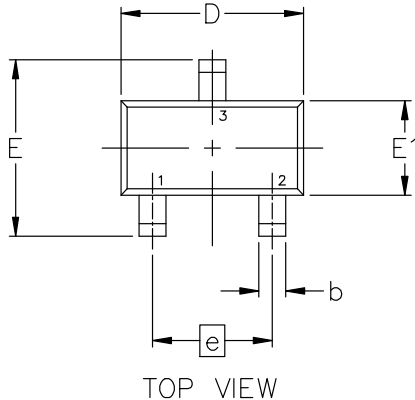
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STYLE 9: PIN 1. ANODE 2. ANODE 3. CATHODE	STYLE 10: PIN 1. DRAIN 2. SOURCE 3. GATE	STYLE 11: PIN 1. ANODE 2. CATHODE 3. CATHODE-ANODE	STYLE 12: PIN 1. CATHODE 2. CATHODE 3. ANODE	STYLE 13: PIN 1. SOURCE 2. DRAIN 3. GATE	STYLE 14: PIN 1. CATHODE 2. GATE 3. ANODE
STYLE 15: PIN 1. GATE 2. CATHODE 3. ANODE	STYLE 16: PIN 1. ANODE 2. CATHODE 3. CATHODE	STYLE 17: PIN 1. NO CONNECTION 2. ANODE 3. CATHODE	STYLE 18: PIN 1. NO CONNECTION 2. CATHODE 3. ANODE	STYLE 19: PIN 1. CATHODE 2. ANODE 3. CATHODE-ANODE	STYLE 20: PIN 1. CATHODE 2. ANODE 3. GATE
STYLE 21: PIN 1. GATE 2. SOURCE 3. DRAIN	STYLE 22: PIN 1. RETURN 2. OUTPUT 3. INPUT	STYLE 23: PIN 1. ANODE 2. ANODE 3. CATHODE	STYLE 24: PIN 1. GATE 2. DRAIN 3. SOURCE	STYLE 25: PIN 1. ANODE 2. CATHODE 3. GATE	STYLE 26: PIN 1. CATHODE 2. ANODE 3. NO CONNECTION
STYLE 27: PIN 1. CATHODE 2. CATHODE 3. CATHODE	STYLE 28: PIN 1. ANODE 2. ANODE 3. ANODE				

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DESCRIPTION:	SOT-23 (TO-236) 2.90x1.30x1.00 1.90P	PAGE 2 OF 2

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**SC-59-3 2.90x1.50x1.15, 1.90P**  
**CASE 318D**  
**ISSUE J**

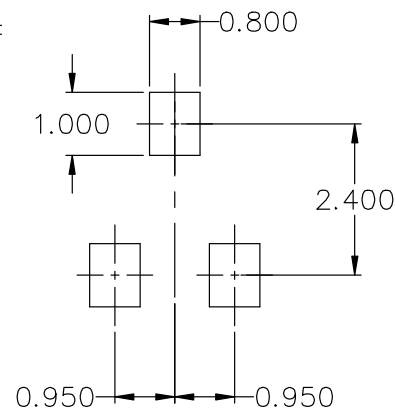
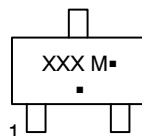
DATE 15 FEB 2024



## NOTES:

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

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	1.00	1.15	1.30
A1	0.01	0.06	0.10
b	0.35	0.43	0.50
c	0.09	0.14	0.18
D	2.70	2.90	3.10
E	2.50	2.80	3.00
E1	1.30	1.50	1.70
e	1.90 BSC		
L	0.20	0.40	0.60


**GENERIC**  
**MARKING DIAGRAM\***


XXX = Specific Device Code  
M = Date Code  
▪ = Pb-Free Package\*

(\*Note: Microdot may be in either location)

\*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 ON SEMICONDUCTOR SOLDERING AND MOUNTING TECHNIQUES REFERENCE MANUAL, SOLDERRM/D.

STYLE 1:  
PIN 1. BASE  
2. EMITTER  
3. COLLECTOR

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

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

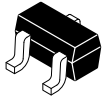
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2. N.C.  
3. ANODE

STYLE 5:  
PIN 1. CATHODE  
2. CATHODE  
3. ANODE

STYLE 6:  
PIN 1. ANODE  
2. CATHODE  
3. ANODE/CATHODE

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<b>DESCRIPTION:</b>	<b>SC-59-3 2.90x1.50x1.15, 1.90P</b>	<b>PAGE 1 OF 1</b>

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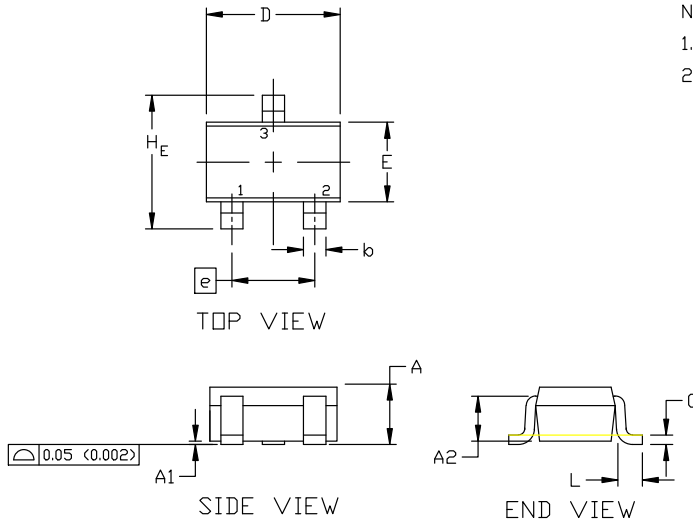
SCALE 4:1

**SC-70 (SOT-323)**  
**CASE 419**  
**ISSUE R**

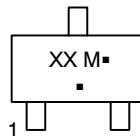
DATE 11 OCT 2022

## NOTES:

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

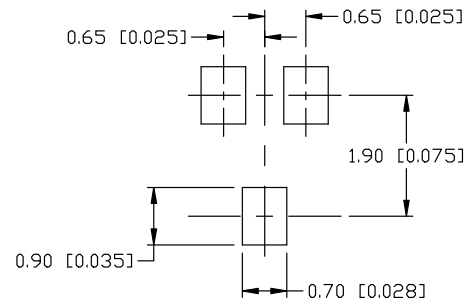


DIM	MILLIMETERS			INCHES		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70 REF			0.028 BSC		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.00	2.20	0.071	0.080	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20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

**GENERIC**  
**MARKING DIAGRAM**


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



\* For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/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:  
PIN 1. EMITTER  
2. BASE  
3. COLLECTOR

STYLE 7:  
PIN 1. BASE  
2. EMITTER  
3. COLLECTOR

STYLE 8:  
PIN 1. GATE  
2. SOURCE  
3. DRAIN

STYLE 9:  
PIN 1. ANODE  
2. CATHODE  
3. CATHODE-ANODE

STYLE 10:  
PIN 1. CATHODE  
2. ANODE  
3. ANODE-CATHODE

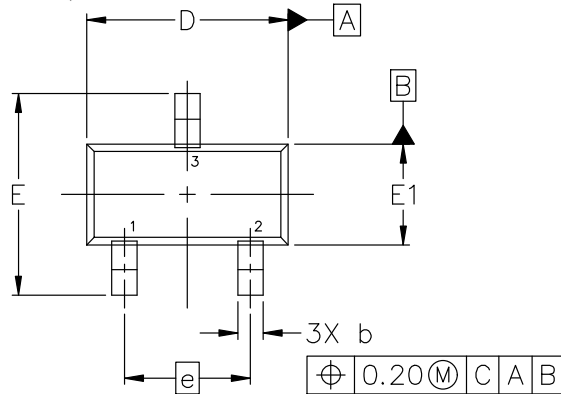
STYLE 11:  
PIN 1. CATHODE  
2. CATHODE  
3. CATHODE

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<b>DESCRIPTION:</b>	<b>SC-70 (SOT-323)</b>	<b>PAGE 1 OF 1</b>

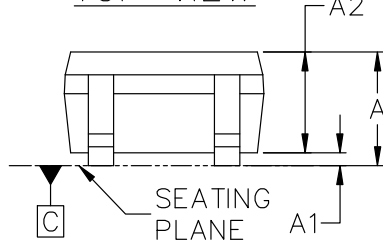
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SC75-3 1.60x0.80x0.80, 1.00P  
CASE 463  
ISSUE H

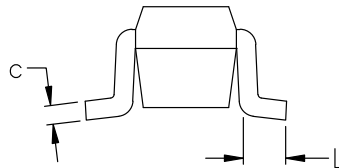
DATE 01 FEB 2024



TOP VIEW

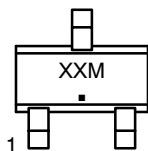


SIDE VIEW



END VIEW

GENERIC  
MARKING DIAGRAM\*



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

STYLE 1:  
PIN 1. BASE  
2. EMITTER  
3. COLLECTOR

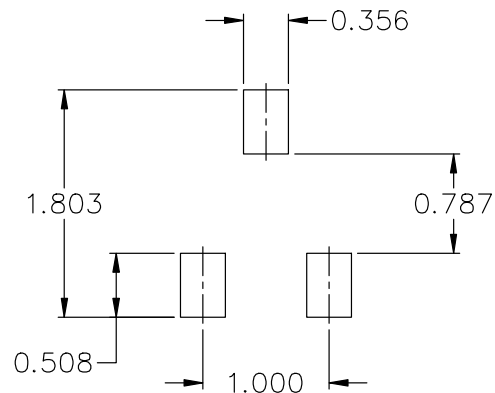
STYLE 2:  
PIN 1. ANODE  
2. N/C  
3. CATHODE

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  
3. DRAIN

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.70	0.80	0.90
A1	0.00	0.05	0.10
A2	0.80 REF.		
b	0.15	0.20	0.30
c	0.10	0.15	0.25
D	1.55	1.60	1.65
E	1.50	1.60	1.70
E1	0.70	0.80	0.90
e	1.00 BSC		
L	0.10	0.15	0.20

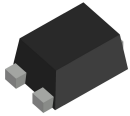


RECOMMENDED MOUNTING FOOTPRINT\*

\* FOR ADDITIONAL INFORMATION ON OUR Pb-FREE STRATEGY AND SOLDERING DETAILS, PLEASE DOWNLOAD THE ON SEMICONDUCTOR SOLDERING AND MOUNTING TECHNIQUES REFERENCE MANUAL, SOLDERRM/D.

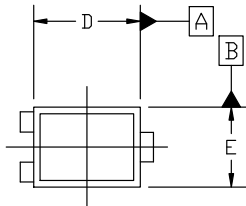
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DESCRIPTION:	SC75-3 1.60x0.80x0.80, 1.00P	PAGE 1 OF 1

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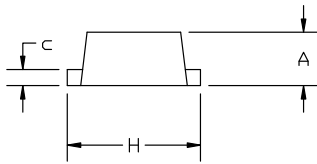


**SOT-1123 0.80x0.60x0.37, 0.35P**  
**CASE 524AA**  
**ISSUE D**

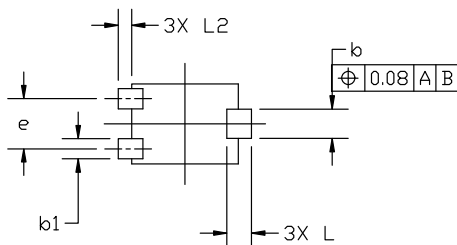
DATE 18 JAN 2024



TOP VIEW

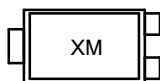


SIDE VIEW



BOTTOM VIEW

**GENERIC  
MARKING DIAGRAM\***



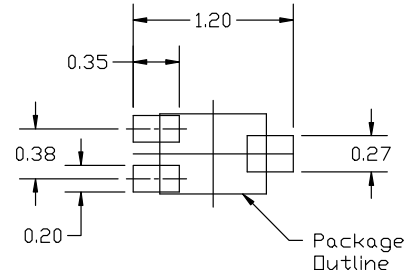
X = Specific Device Code  
M = Date Code

\*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.

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.

MILLIMETERS			
DIM	MIN	NOM	MAX
A	0.34	0.37	0.40
b	0.15	0.22	0.28
b1	0.10	0.15	0.20
c	0.07	0.12	0.17
D	0.75	0.80	0.85
E	0.55	0.60	0.65
e	0.35	0.38	0.40
H	0.950	1.000	1.050
L	0.185 REF		
L2	0.05	0.10	0.15



**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, SOLDERM/D.

STYLE 1:  
PIN 1. BASE  
2. EMITTER  
3. COLLECTOR

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

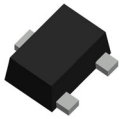
STYLE 3:  
PIN 1. ANODE  
2. ANODE  
3. CATHODE

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

STYLE 5:  
PIN 1. GATE  
2. SOURCE  
3. DRAIN

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<b>DESCRIPTION:</b>	<b>SOT-1123 0.80x0.60x0.37, 0.35P</b>	<b>PAGE 1 OF 1</b>

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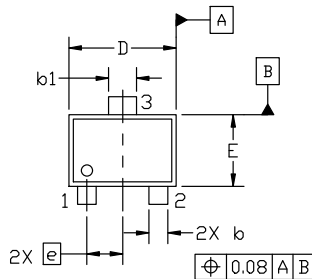


**SOT-723 1.20x0.80x0.50, 0.40P**  
**CASE 631AA**  
**ISSUE E**

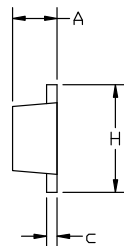
DATE 24 JAN 2024

NOTES:

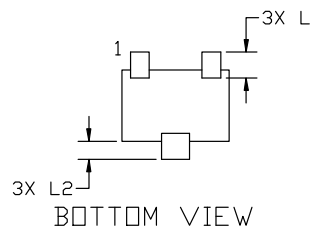
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



TOP VIEW

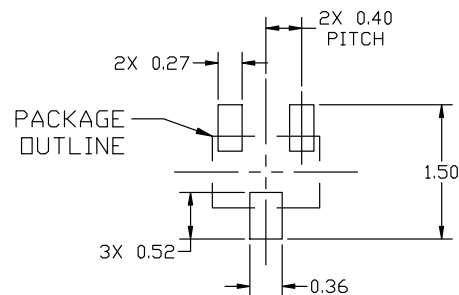


SIDE VIEW



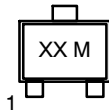
BOTTOM VIEW

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.45	0.50	0.55
b	0.15	0.21	0.27
b1	0.25	0.31	0.37
c	0.07	0.12	0.17
D	1.15	1.20	1.25
E	0.75	0.80	0.85
e	0.40 BSC		
H	1.15	1.20	1.25
L	0.29 REF		
L2	0.15	0.20	0.25



RECOMMENDED MOUNTING  
FOOTPRINT

**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.

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

STYLE 1: PIN 1. BASE 2. 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 3. DRAIN
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<b>DESCRIPTION:</b>	<b>SOT-723 1.20x0.80x0.50, 0.40P</b>	<b>PAGE 1 OF 1</b>

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