

MUN5116DW1, NSBA143TDXV6

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
----------------	--------	-----	------

MUN5116DW1 (SOT-363) ONE JUNCTION HEATED

Total Device Dissipation $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D (Note 1) (Note 2) (Note 1) (Note 2)	187 256 1.5 2.0	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$ (Note 1) (Note 2)	670 490	$^\circ\text{C}/\text{W}$

MUN5116DW1 (SOT-363) BOTH JUNCTION HEATED (Note 3)

Total Device Dissipation $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D (Note 1) (Note 2) (Note 1) (Note 2)	250 385 2.0 3.0	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$ (Note 1) (Note 2)	493 325	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction to Lead	$R_{\theta JL}$ (Note 1) (Note 2)	188 208	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

NSBA143TDXV6 (SOT-563) ONE JUNCTION HEATED

Total Device Dissipation $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D (Note 1) (Note 1)	357 2.9	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$ (Note 1)	350	$^\circ\text{C}/\text{W}$

NSBA143TDXV6 (SOT-563) BOTH JUNCTION HEATED (Note 3)

Total Device Dissipation $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D (Note 1) (Note 1)	500 4.0	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$ (Note 1)	250	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

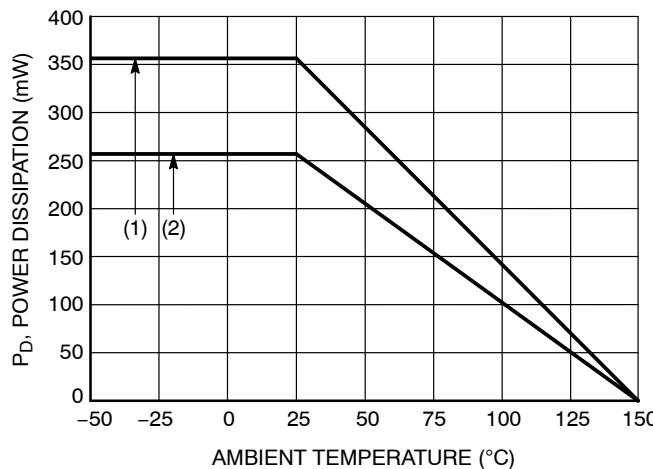
1. FR-4 @ Minimum Pad.
2. FR-4 @ 1.0×1.0 Inch Pad.
3. Both junction heated values assume total power is sum of two equally powered channels.

MUN5116DW1, NSBA143TDXV6

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, common for Q_1 and Q_2 , unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Base Cutoff Current ($V_{CB} = 50\text{ V}$, $I_E = 0$)	I_{CBO}	—	—	100	nAdc
Collector-Emitter Cutoff Current ($V_{CE} = 50\text{ V}$, $I_B = 0$)	I_{CEO}	—	—	500	nAdc
Emitter-Base Cutoff Current ($V_{EB} = 6.0\text{ V}$, $I_C = 0$)	I_{EBO}	—	—	1.9	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 4) ($I_C = 2.0\text{ mA}$, $I_B = 0$)	$V_{(BR)CEO}$	50	—	—	Vdc
ON CHARACTERISTICS					
DC Current Gain (Note 4) ($I_C = 5.0\text{ mA}$, $V_{CE} = 10\text{ V}$)	h_{FE}	160	250	—	
Collector-Emitter Saturation Voltage (Note 4) ($I_C = 10\text{ mA}$, $I_B = 1.0\text{ mA}$)	$V_{CE(\text{sat})}$	—	—	0.25	V
Input Voltage (Off) ($V_{CE} = 5.0\text{ V}$, $I_C = 100\text{ }\mu\text{A}$)	$V_{i(\text{off})}$	—	0.58	—	Vdc
Input Voltage (On) ($V_{CE} = 0.2\text{ V}$, $I_C = 10\text{ mA}$)	$V_{i(\text{on})}$	—	1.0	—	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	R_1	3.3	4.7	6.1	$\text{k}\Omega$
Resistor Ratio	R_1/R_2	—	—	—	

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



(1) SOT-363; 1.0 x 1.0 Inch Pad
(2) SOT-563; Minimum Pad

Figure 1. Derating Curve

MUN5116DW1, NSBA143TDXV6

TYPICAL CHARACTERISTICS MUN5116DW1, NSBA143TDXV6

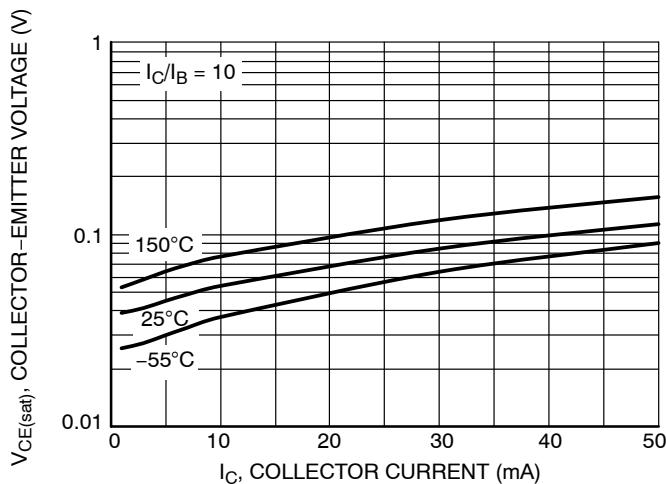


Figure 2. $V_{CE(sat)}$ vs. I_C

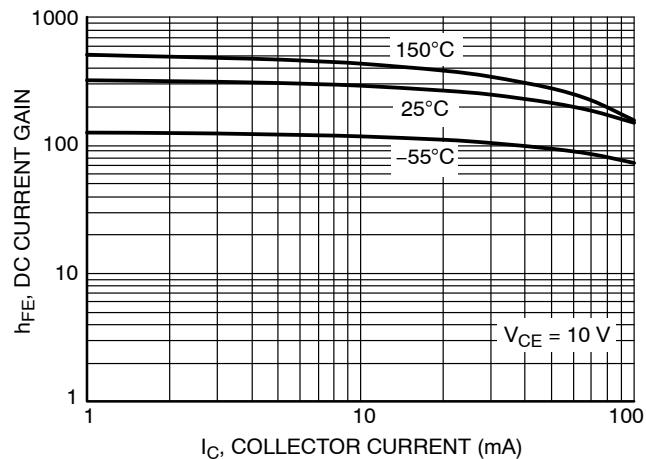


Figure 3. DC Current Gain

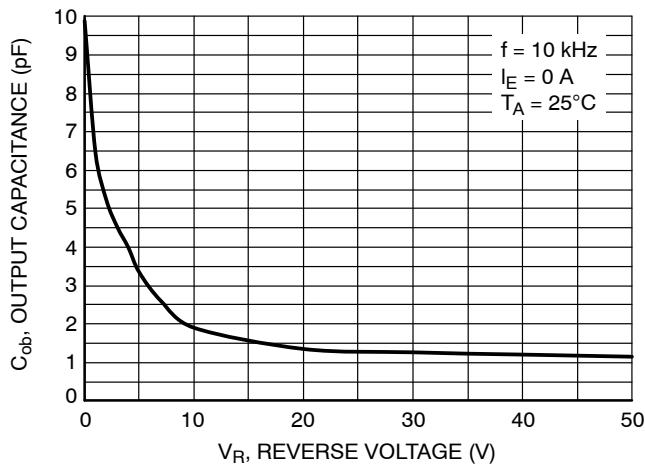


Figure 4. Output Capacitance

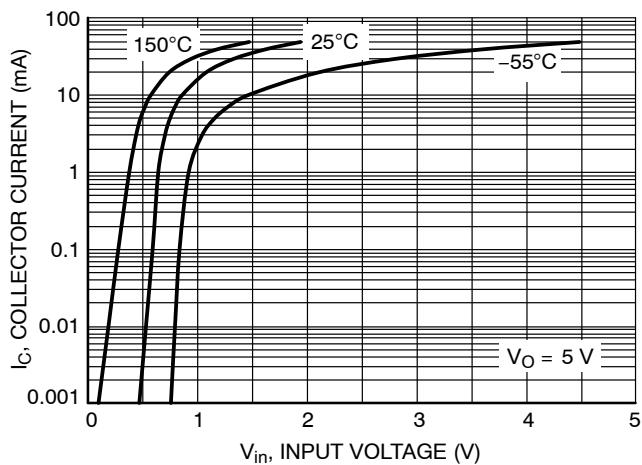


Figure 5. Output Current vs. Input Voltage

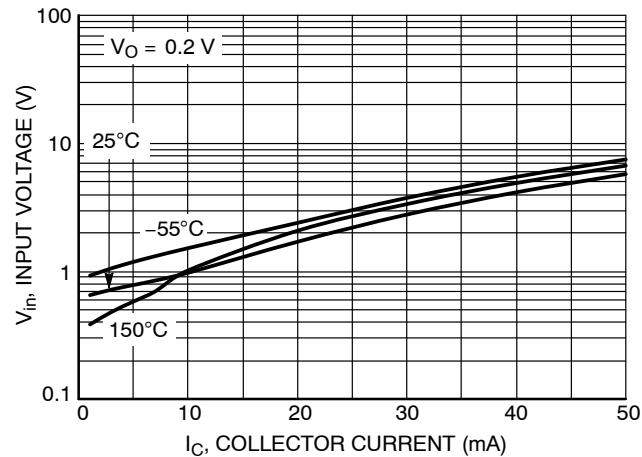


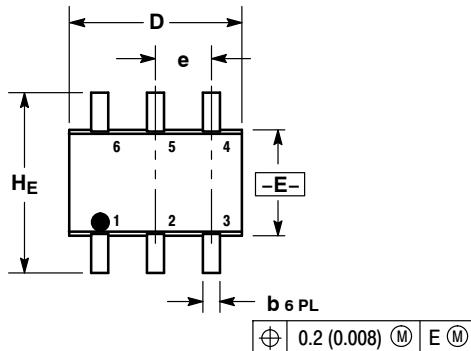
Figure 6. Input Voltage vs. Output Current

PACKAGE DIMENSIONS

SC-88/SC70-6/SOT-363

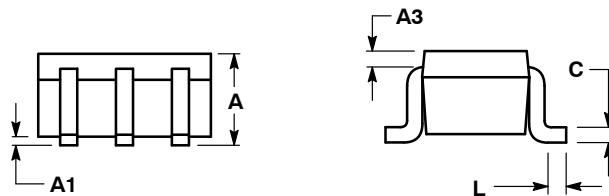
CASE 419B-02

ISSUE W

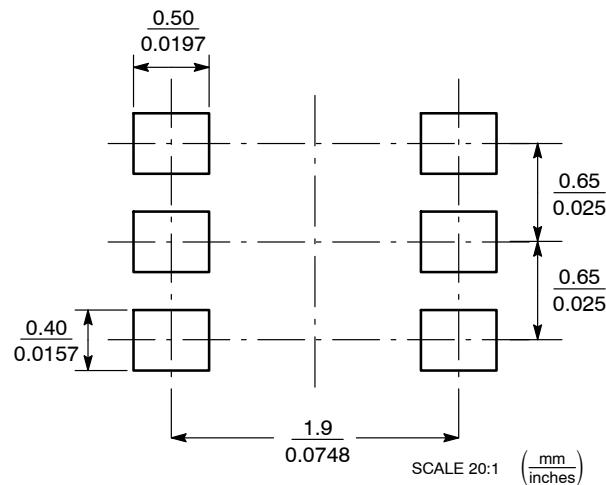


NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. 419B-01 OBSOLETE, NEW STANDARD 419B-02.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.95	1.10	0.031	0.037	0.043
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3		0.20	REF		0.008	REF
b	0.10	0.21	0.30	0.004	0.008	0.012
C	0.10	0.14	0.25	0.004	0.005	0.010
D	1.80	2.00	2.20	0.070	0.078	0.086
E	1.15	1.25	1.35	0.045	0.049	0.053
e		0.65	BSC		0.026	BSC
L	0.10	0.20	0.30	0.004	0.008	0.012
H_E	2.00	2.10	2.20	0.078	0.082	0.086



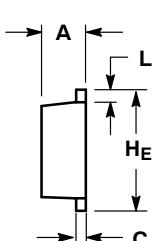
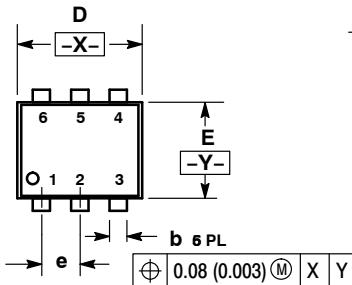
SOLDERING FOOTPRINT*



SC-88/SC70-6/SOT-363

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

PACKAGE DIMENSIONS

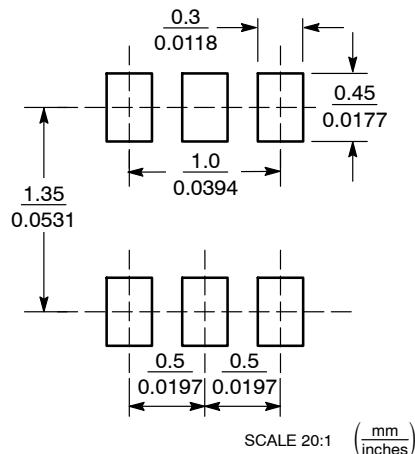
SOT-563, 6 LEAD
CASE 463A
ISSUE F

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS
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	0.50	0.55	0.60	0.020	0.021	0.023
b	0.17	0.22	0.27	0.007	0.009	0.011
C	0.08	0.12	0.18	0.003	0.005	0.007
D	1.50	1.60	1.70	0.059	0.062	0.066
E	1.10	1.20	1.30	0.043	0.047	0.051
e	0.5 BSC			0.02 BSC		
L	0.10	0.20	0.30	0.004	0.008	0.012
H_E	1.50	1.60	1.70	0.059	0.062	0.066

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.

ON Semiconductor and **ON** are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of SCILLC's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. 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
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81-3-5817-1050

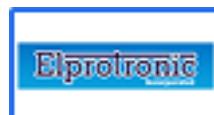
ON Semiconductor Website: www.onsemi.comOrder Literature: <http://www.onsemi.com/orderlit>

For additional information, please contact your local
Sales Representative

AMEYA360

Components Supply Platform

Authorized Distribution Brand :



Website :

Welcome to visit www.ameya360.com

Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
Minhang District, Shanghai , China

➤ Sales :

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

Skype ameyasales1 ameyasales2

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com