

MUR1620CTRG, MURB1620CTRG, NRVUB1620CTRT4G

SWITCHMODE Power Rectifier

These state-of-the-art devices are designed for use in negative switching power supplies, inverters and as free wheeling diodes. Also, used in conjunction with common cathode dual Ultrafast Rectifiers, makes a single phase full-wave bridge.

Features

- Common Anode Dual Rectifier (8.0 A per Leg or 16 A per Package)
- Ultrafast 35 Nanosecond Reverse Recovery Times
- Exhibits Soft Recovery Characteristics
- High Temperature Glass Passivated Junction
- Low Leakage Specified @ 150°C Case Temperature
- Current Derating @ Both Case and Ambient Temperatures
- Epoxy Meets UL 94 V-0 @ 0.125 in
- Complement to MUR1620CT and MURB1620CT Common Cathode Device
- ESD Ratings:
 - ♦ Machine Model = C (> 400 V)
 - ♦ Human Body Model = 3B (> 16,000 V)
- NRVU Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- All Packages are Pb-Free*

Mechanical Characteristics:

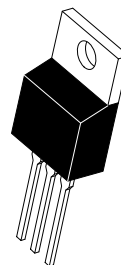
- Case: Epoxy, Molded
- Weight: MUR1620CTR: 1.9 Grams (Approximately)
MURB1620CTR: 1.7 Grams (Approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes:
260°C Max. for 10 Seconds



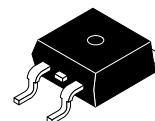
ON Semiconductor®

<http://onsemi.com>

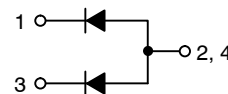
ULTRAFAST RECTIFIER 16 AMPERES, 200 VOLTS



**TO-220AB
CASE 221A
STYLE 7**



**D2PAK
CASE 418AJ**



MARKING DIAGRAMS



TO-220AB



D2PAK

U1620R = Device Code
KAK = Diode Polarity
A = Assembly Location
Y = Year
WW = Work Week
G = Pb-Free Package

ORDERING INFORMATION

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

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

MUR1620CTRG, MURB1620CTRG, NRVUB1620CTRT4G

MAXIMUM RATINGS (Per Leg)

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	V
Average Rectified Forward Current (Rated V_R , $T_C = 160^\circ\text{C}$) Per Leg Per Total Device	$I_{F(AV)}$	8.0 16	A
Peak Repetitive Surge Current (Rated V_R , Square Wave, 20 kHz, $T_C = 140^\circ\text{C}$) Per Diode	I_{FM}	16	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	100	A
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-65 to +175	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS (Per Leg)

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	2.0	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Ambient (D ² PAK)	$R_{\theta JA}$	45	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS (Per Leg)

Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 1) ($i_F = 8.0$ Amps, $T_C = 25^\circ\text{C}$) ($i_F = 8.0$ Amps, $T_C = 150^\circ\text{C}$)	V_F	1.2 1.1	V
Maximum Instantaneous Reverse Current (Note 1) (Rated dc Voltage, $T_C = 25^\circ\text{C}$) (Rated dc Voltage, $T_C = 150^\circ\text{C}$)	i_R	5.0 500	μA
Maximum Reverse Recovery Time ($I_F = 1.0$ Amp, $di/dt = 50$ Amps/ μs)	t_{rr}	85	ns

1. Pulse Test: Pulse Width = 5.0 ms, Duty Cycle $\leq 10\%$.

ORDERING INFORMATION

Device	Package	Shipping [†]
MUR1620CTRG	TO-220 (Pb-Free)	50 Units / Rail
MURB1620CTRG	D ² PAK-3 (Pb-Free)	50 Units / Rail
MURB1620CTRT4G	D ² PAK-3 (Pb-Free)	800 / Tape & Reel
NRVUB1620CTRT4G	D ² PAK-3 (Pb-Free)	800 / 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.

MUR1620CTRG, MURB1620CTRG, NRVUB1620CTRT4G

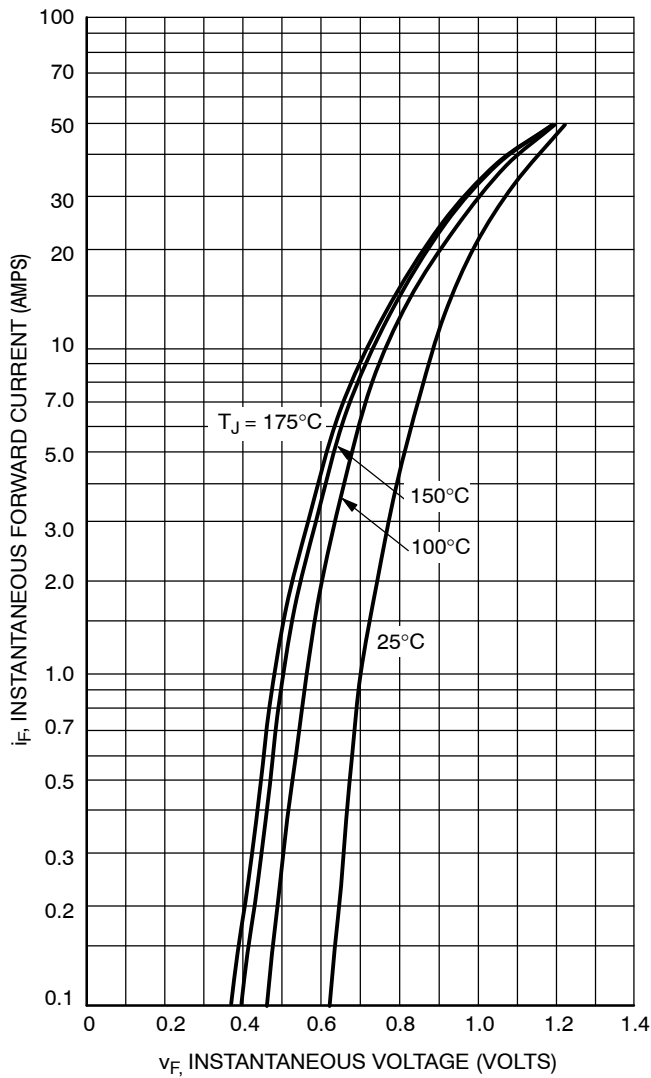


Figure 1. Typical Forward Voltage (Per Leg)

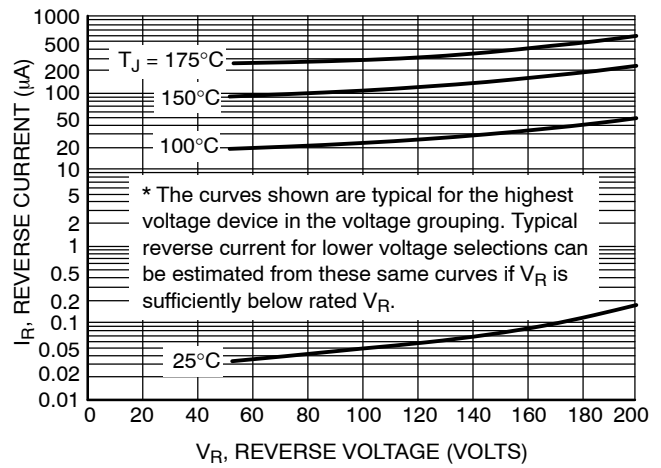


Figure 2. Typical Reverse Current* (Per Leg)

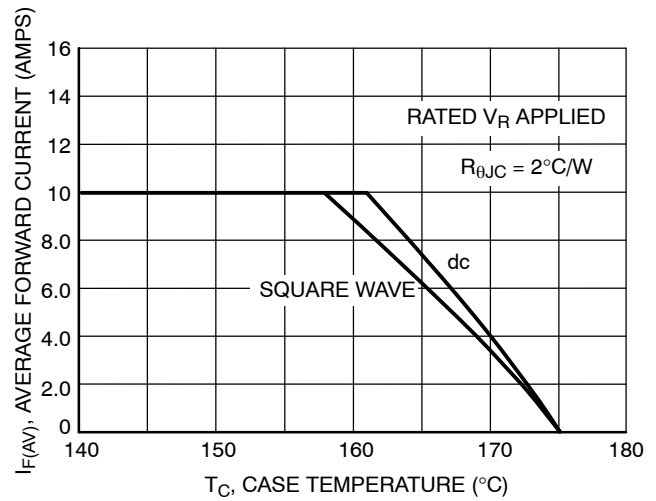


Figure 3. Current Derating, Case (Per Leg)

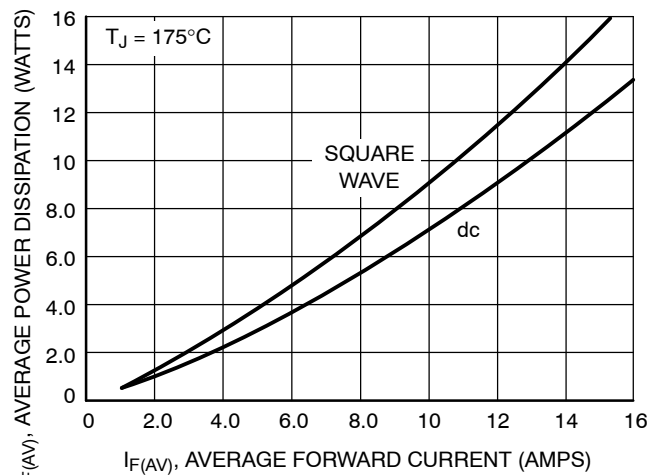


Figure 4. Power Dissipation (Per Leg)

MUR1620CTRG, MURB1620CTRG, NRVUB1620CTRT4G

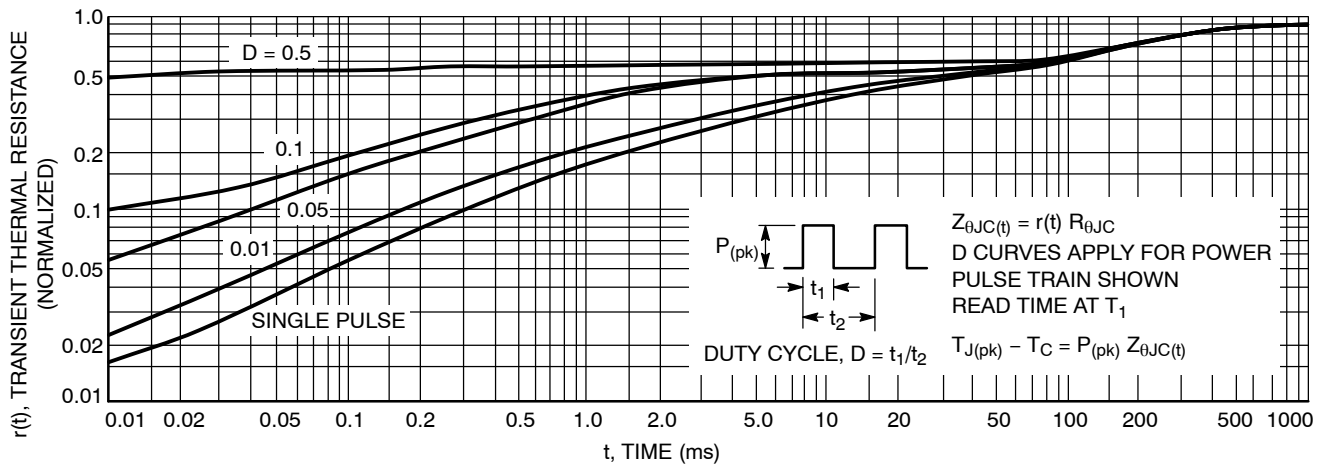


Figure 5. Thermal Response

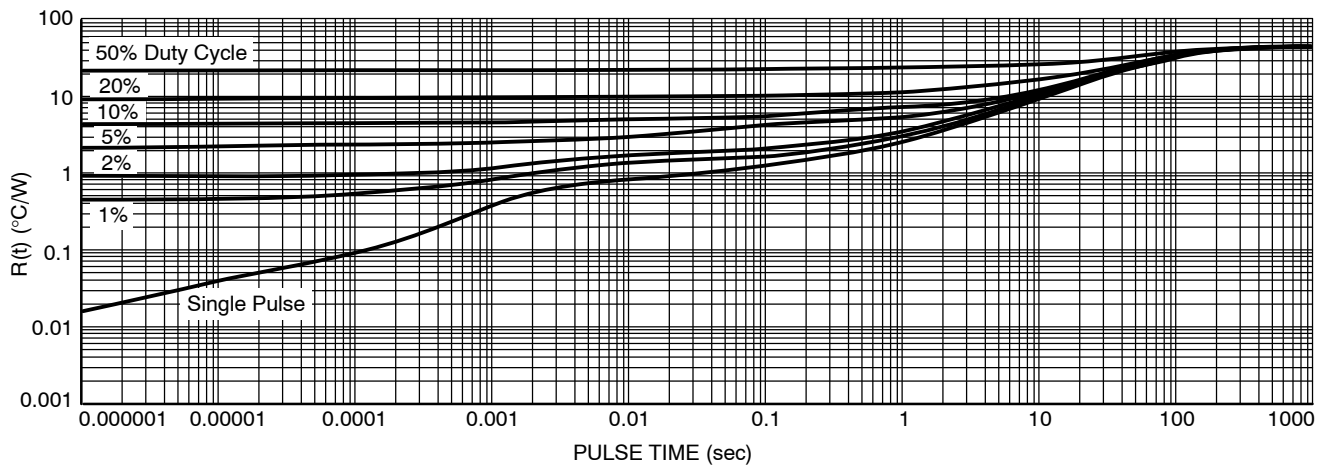


Figure 6. Thermal Response, Junction-to-Ambient

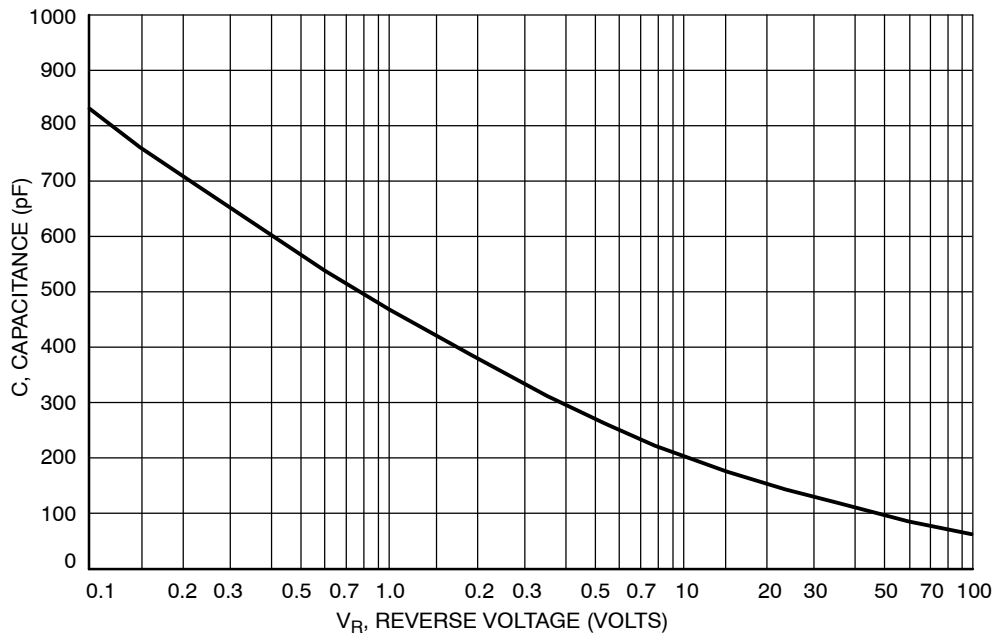
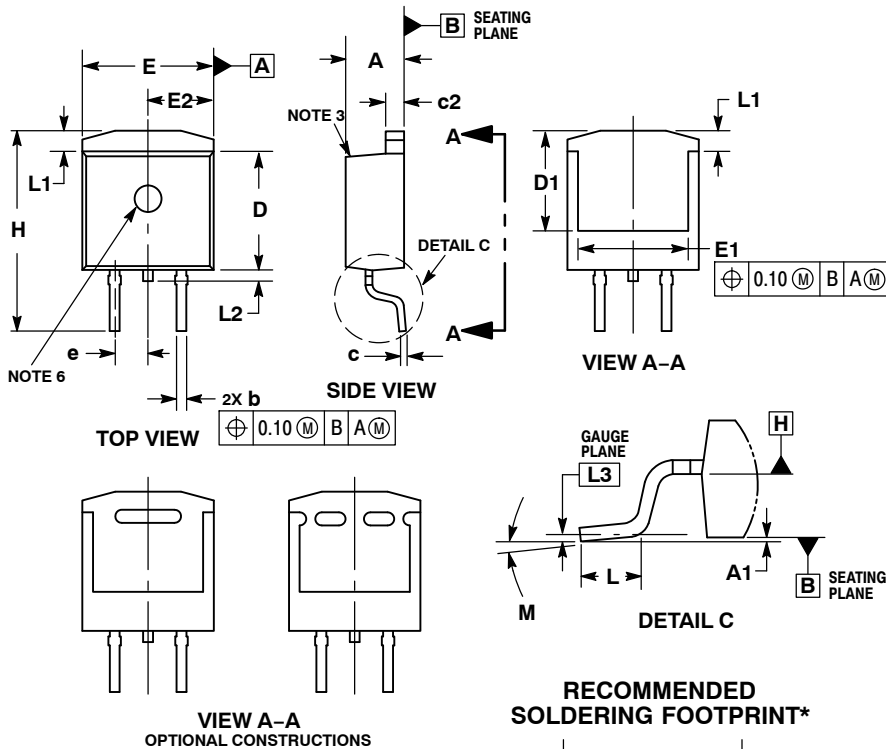


Figure 7. Typical Capacitance (Per Leg)

PACKAGE DIMENSIONS

D²PAK-3 (TO-263, 3-LEAD)
CASE 418AJ
ISSUE A

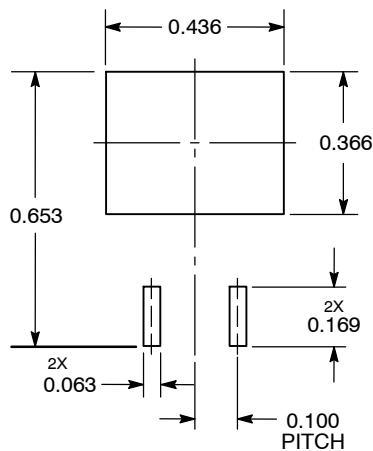


NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: INCHES.
3. CHAMFER OPTIONAL
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH. MOLD FLASH SHALL NOT EXCEED 0.005 PER SIDE. THESE DIMENSIONS ARE MEASURED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY AT DATUM H.
5. THERMAL PAD CONTOUR IS OPTIONAL WITHIN DIMENSIONS E, L1, D1 AND E1.
6. OPTIONAL MOLD FEATURE

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.160	0.190	4.06	4.83
A1	0.000	0.010	0.00	0.25
b	0.020	0.039	0.51	0.99
c	0.012	0.029	0.30	0.74
c2	0.045	0.065	1.14	1.65
D	0.330	0.380	8.38	9.65
D1	0.260	-----	6.60	-----
E	0.380	0.420	9.65	10.67
E1	0.245	-----	6.22	-----
e	0.100 BSC	-----	2.54 BSC	-----
H	0.575	0.625	14.60	15.88
L	0.070	0.110	1.78	2.79
L1	-----	0.066	-----	1.68
L2	-----	0.070	-----	1.78
L3	0.010 BSC	-----	0.25 BSC	-----
M	0°	8°	0°	8°

RECOMMENDED
SOLDERING FOOTPRINT*



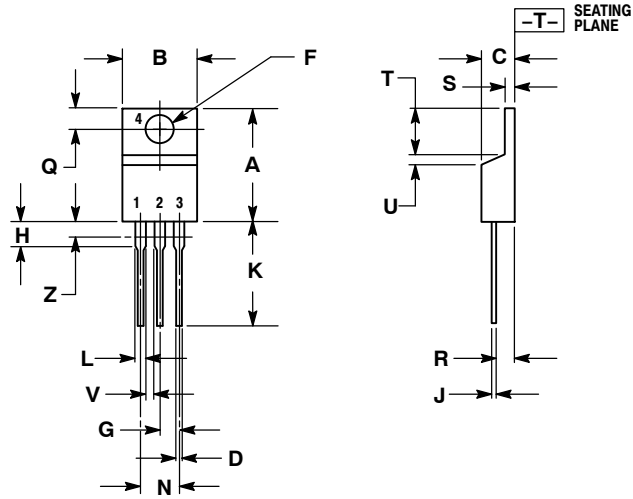
DIMENSIONS: INCHES

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

MUR1620CTRG, MURB1620CTRG, NRVUB1620CTRT4G

PACKAGE DIMENSIONS

TO-220
CASE 221A-09
ISSUE AG



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.036	0.64	0.91
F	0.142	0.161	3.61	4.09
G	0.095	0.105	2.42	2.66
H	0.110	0.161	2.80	4.10
J	0.014	0.025	0.36	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
V	0.045	---	1.15	---
Z	---	0.080	---	2.04

STYLE 7:

- PIN 1. CATHODE
2. ANODE
3. CATHODE
4. ANODE

ON Semiconductor and  are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). 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.com

Order Literature: <http://www.onsemi.com/orderlit>

For additional information, please contact your local Sales Representative

MUR1620CTR/D

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9