# **UMN11N**

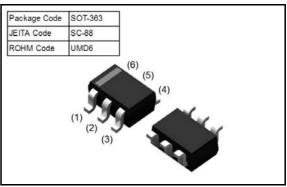
### Switching Diode (High speed switching)

Data sheet

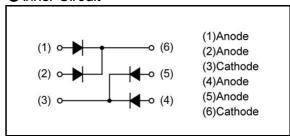
V <sub>RM</sub>	80	V
I <sub>FM</sub>	300	mA
Ι <sub>ο</sub>	100	mA
I <sub>FSM</sub>	4000	mA

- FeaturesHigh reliabilityHigh Speed switching
- ApplicationHigh speed switching
- StructureEpitaxial planar

#### Outline



Inner Circuit



Packaging Specifications

C: dertagnig Speemeations				
Embossed Tape				
180				
8				
3000				
TN				
N11				

## ● Absolute Maximum Ratings (T<sub>a</sub> = 25°C)

Parameter	Symbol	Conditions	Limits	Unit
Reverse voltage	V <sub>R</sub>	-	80	V
Repetitive peak reverse voltage	V <sub>RM</sub>	-	80	V
Average rectified forward current	l <sub>o</sub>	-	100	mA
Forward current	I <sub>FM</sub>	-	300	mA
Peak forward surge current	I <sub>FSM</sub>	t=1µs	4000	mA
Power dissipation *	P <sub>D</sub>	-	200	mW
Junction temperature	Tj	-	150	°C
Storage temperature	T <sub>stg</sub>	-	-55 <b>~</b> 150	°C

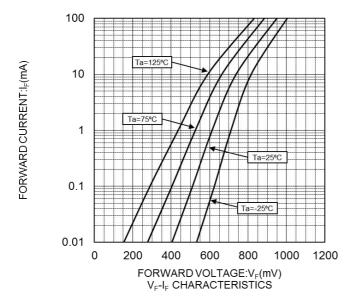
<sup>\*4</sup> elements total

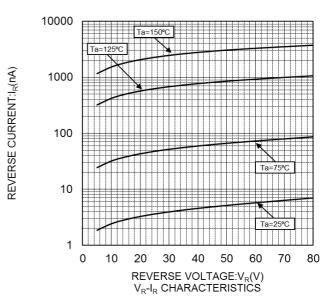
# ullet Characteristics (T<sub>a</sub> = 25°C)

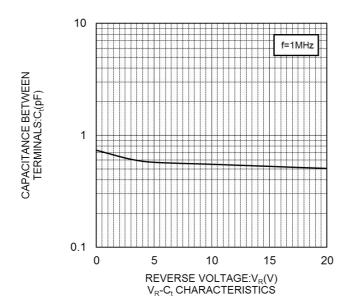
Value per element

Parameter	Symbol	Conditions	Min.	Тур.	Max.	Unit
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =100mA	-	-	1.2	٧
Reverse current	I <sub>R</sub>	V <sub>R</sub> =70V	-	-	0.1	μA
Capacitance between terminals	Ct	V <sub>R</sub> =6.0V f=1.0MHz	-	-	3.5	рF
Reverse recovery time	trr	$V_{R}$ =6.0V $I_{F}$ =5.0mA $R_{L}$ =50 $\Omega$	-	-	4.0	ns

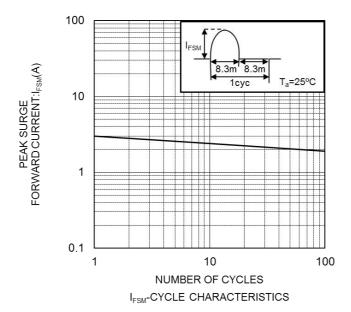
### Characteristic Curves

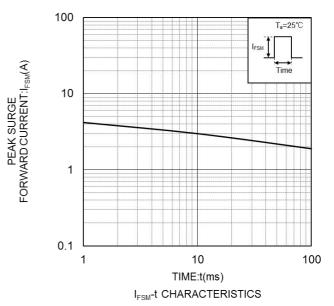




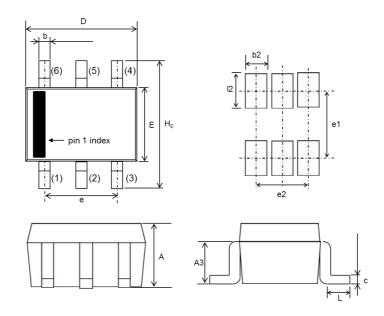


### Characteristic Curves



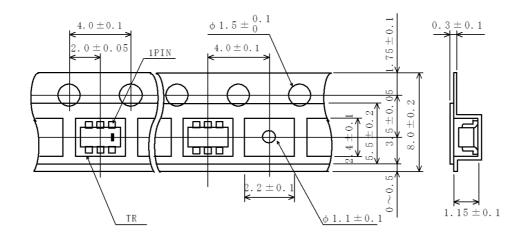


### ● Dimensions (SOT-363 SC-88 UMD6)



DIM Milimeters		Inches				
DIIVI	Min.	Average	Max.	Min.	Average	Max.
A2	0.80	0.90	1.00	0.031	0.035	0.039
A3	-	0.70	-	-	0.028	-
b	0.15	0.20	0.30	0.006	0.008	0.012
С	0.10	0.15	0.20	0.004	0.006	0.008
D	1.90	2.00	2.10	0.075	0.079	0.083
E	1.15	1.25	1.35	0.045	0.049	0.053
HE	2.00	2.10	2.20	0.079	0.083	0.087
L	0.10	-	0.40	0.004	-	0.016
е	1.20	1.30	1.40	0.047	0.051	0.055
12	0.90	-	•	0.035	-	-
b2	-	0.35	-	-	0.014	-
e1	-	1.60	1	-	0.063	-
e2	-	1.30	-	-	0.051	-

## ● Taping (Unit:mm)



# **Notice**

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(Note1) Medical Equipment Classification of the Specific Applications

JAPAN	USA	EU	CHINA	
CLASSⅢ	CLASSIII	CLASS II b	CLASSIII	
CLASSIV	CLASSIII	CLASSⅢ	CLASSIII	

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  - [c] Use of our Products in places where the Products are exposed to sea wind or corrosive gases, including Cl<sub>2</sub>, H<sub>2</sub>S, NH<sub>3</sub>, SO<sub>2</sub>, and NO<sub>2</sub>
  - [d] Use of our Products in places where the Products are exposed to static electricity or electromagnetic waves
  - [e] Use of our Products in proximity to heat-producing components, plastic cords, or other flammable items
  - [f] Sealing or coating our Products with resin or other coating materials
  - [g] Use of our Products without cleaning residue of flux (Exclude cases where no-clean type fluxes is used. However, recommend sufficiently about the residue.); or Washing our Products by using water or water-soluble cleaning agents for cleaning residue after soldering
  - [h] Use of the Products in places subject to dew condensation
- 4. The Products are not subject to radiation-proof design.
- 5. Please verify and confirm characteristics of the final or mounted products in using the Products.
- 6. In particular, if a transient load (a large amount of load applied in a short period of time, such as pulse, is applied, confirmation of performance characteristics after on-board mounting is strongly recommended. Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.
- 7. De-rate Power Dissipation depending on ambient temperature. When used in sealed area, confirm that it is the use in the range that does not exceed the maximum junction temperature.
- 8. Confirm that operation temperature is within the specified range described in the product specification.
- 9. ROHM shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in this document.

#### **Precaution for Mounting / Circuit board design**

- 1. When a highly active halogenous (chlorine, bromine, etc.) flux is used, the residue of flux may negatively affect product performance and reliability.
- 2. In principle, the reflow soldering method must be used on a surface-mount products, the flow soldering method must be used on a through hole mount products. If the flow soldering method is preferred on a surface-mount products, please consult with the ROHM representative in advance.

For details, please refer to ROHM Mounting specification

#### **Precautions Regarding Application Examples and External Circuits**

- 1. If change is made to the constant of an external circuit, please allow a sufficient margin considering variations of the characteristics of the Products and external components, including transient characteristics, as well as static characteristics.
- 2. You agree that application notes, reference designs, and associated data and information contained in this document are presented only as guidance for Products use. Therefore, in case you use such information, you are solely responsible for it and you must exercise your own independent verification and judgment in the use of such information contained in this document. ROHM shall not be in any way responsible or liable for any damages, expenses or losses incurred by you or third parties arising from the use of such information.

#### **Precaution for Electrostatic**

This Product is electrostatic sensitive product, which may be damaged due to electrostatic discharge. Please take proper caution in your manufacturing process and storage so that voltage exceeding the Products maximum rating will not be applied to Products. Please take special care under dry condition (e.g. Grounding of human body / equipment / solder iron, isolation from charged objects, setting of lonizer, friction prevention and temperature / humidity control).

#### **Precaution for Storage / Transportation**

- 1. Product performance and soldered connections may deteriorate if the Products are stored in the places where:
  - [a] the Products are exposed to sea winds or corrosive gases, including Cl2, H2S, NH3, SO2, and NO2
  - [b] the temperature or humidity exceeds those recommended by ROHM
  - [c] the Products are exposed to direct sunshine or condensation
  - [d] the Products are exposed to high Electrostatic
- Even under ROHM recommended storage condition, solderability of products out of recommended storage time period
  may be degraded. It is strongly recommended to confirm solderability before using Products of which storage time is
  exceeding the recommended storage time period.
- 3. Store / transport cartons in the correct direction, which is indicated on a carton with a symbol. Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.
- 4. Use Products within the specified time after opening a humidity barrier bag. Baking is required before using Products of which storage time is exceeding the recommended storage time period.

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