# Switching diode

# **UMN10N**

#### Applications

Very fast recovery

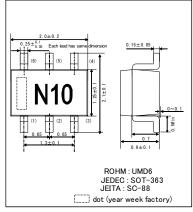
#### ● Features

- 1) Small mold type. (UMD6)
- 2) High reliability

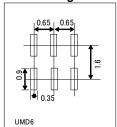
#### Construction

Silicon epitaxial planer

# ●External dimensions (Unit : mm)



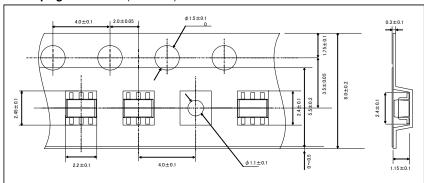
#### ●Land size figure







### ●Taping dimensions (Unit : mm)



## ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Reverse voltage (repetitive peak)	$V_{RM}$	80	V
Reverse voltage (DC)	$V_R$	80	V
Forward current repetitive peak (Single)	I <sub>FM</sub>	300	m A
Average rectified forward current (Single)	lo	100	m A
Surge current (t=1us)	I <sub>surge</sub>	4	А
Power dissipation	Pd	200	m W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

#### ●Electrical characteristic (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Forward voltage	$V_F$	-	-	1.2	V	I <sub>F</sub> =100mA
Reverse current	I <sub>R</sub>	-	-	0.1	μA	V <sub>R</sub> =70V
Capacitance between terminal	Ct	-	-	3.5	pF	V <sub>R</sub> =6V , f=1MHz
Reverse recovery time	trr	-	-	4	ns	V <sub>R</sub> =6V, IF=5mA, RL=50Ω

#### •Electrical characteristic curves Ta=125°C 10000 FORWARD CURRENT:IF(mA) REVERSE CURRENT:IR(nA) CAPACITANCE BETWEEN TERMINALS:Ct(pF) 0.1 0.01 20 30 40 50 60 REVERSE VOLTAGE: VR(V) VR-IR CHARACTERISTICS 70 0 0 80 FORWARD VOLTAGE: VF(mV) VF-IF CHARACTERISTICS REVERSE VOLTAGE:VR(V) VR-Ct CHARACTERISTICS Ta=25°C VR=6V f=1MHz Ta=25°C IF=100mA 90 Ta=25°C VR=80V n=30pcs 1.3 FORWARD VOLTAGE:VF(mV) 80 940 REVERSE CURRENT:IR(nA) CAPACITANCE BETWEEN n=30pcs 1.2 70 60 930 50 0.9 920 40 0.8 30 0.7 910 20 0.6 AVE:921.7mV 10 0.5 900 VF DISPERSION MAP IR DISPERSION MAP Ct DISPERSION MAP RESERVE RECOVERY TIME:trr(ns) PEAK SURGE FORWARD CURRENT:IFSM(A) PEAK SURGE FORWARD CURRENT:IFSM(A) RL=50 Ω n=10pcs 10 AVE:3.50A 533348 AVE:1.93ns IFSM DISRESION MAP NUMBER OF CYCLES trr DISPERSION MAP 1000 THAERMAL IMPEDANCE:Rth (°C/W) Rth(j-a) PEAK SURGE FORWARD CURRENT:IFSM(A) ELECTROSTATIC DISCHARGE TEST ESD(KV) 7 TRANSIENT Rth(j-c) 5 10 10 3 0.1 TIME:t(ms) 0.001 1000 0.1 TIME:t(s) ESD DISPERSION MAP IFSM-t CHARACTERISTICS Rth-t CHARACTERISTICS



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Appendix1-Rev1.1