

(Diode)

# MC971

For High Speed Switching Application  
Silicon Epitaxial Type (Common Cathode)

## DESCRIPTION

MC971 is a small type resin sealed silicon epitaxial type double diode. It is especially designed for high speed switching application.

Due to the small pin capacitance, short switching time (reverse recovery time), it is most suitable for high speed switching application and limiter, clipper application.

## FEATURE

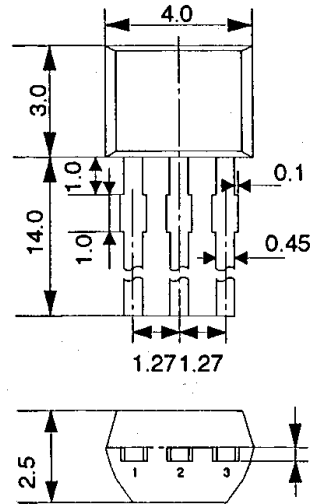
- Small pin capacitance
- Quick switching time
- Good two elements characteristics
- Small outline package for mounting

## APPLICATION

General high speed switching of audio machine, VCR.

OUTLINE DRAWING

UNIT:mm



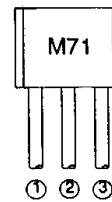
TERMINAL CONNECTOR

- ① : ANODE 1
- ② : CATHODE (COMMON) EIAJ : —
- ③ : ANODE 2 JEDEC : —

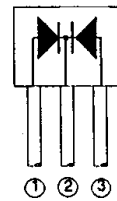
## MAXIMUM RATINGS (Ta=25°C)

SYMBOL	PARAMETER	RATINGS	UNIT
VRM	Peak reverse voltage	75	V
VR	DC reverse voltage	50	V
IFSM	Surge current (1 μs)	4	A
IFM	Peak forward current	300	mA
IO	Average rectification current	100	mA
PT	Total allowable dissipation	450	mW
TJ	Junction temperature	+125	°C
Tstg	Storage temperature	-55to+125	°C

Marking



Internal Connection



## ELECTRICAL CHARACTERISTICS (Ta=25°C)

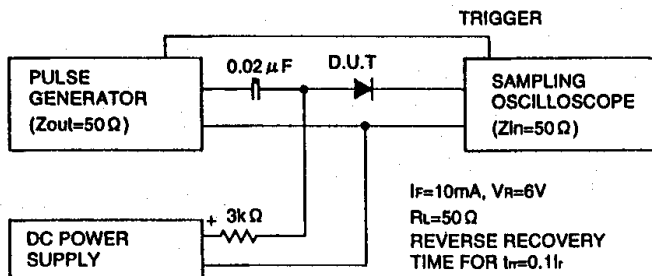
SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
VF1	Forward voltage	IF=10mA		0.72	0.9	V
VF2	Forward voltage	IF=50mA		0.85	1.0	V
VF3	Forward voltage	IF=100mA		0.90	1.2	V
IR	Reverse current	VR=50V			0.1	μA
Ct	Pin capacitance	VR=0, f=1MHz		1.0	4.0	pF
trr	Reverse recovery time	(Refer to test circuit)			3.0	ns

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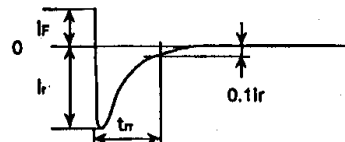
## REVERSE RECOVERY TIME( $t_{rr}$ )TEST CIRCUIT



### ● INPUT VOLTAGE WAVE FORM

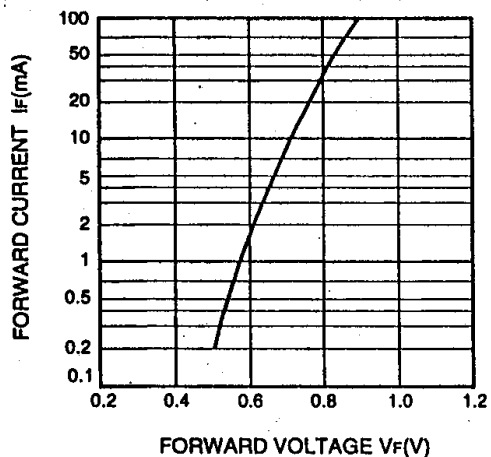


### ● CURRENT WAVE FORM IN DIODE

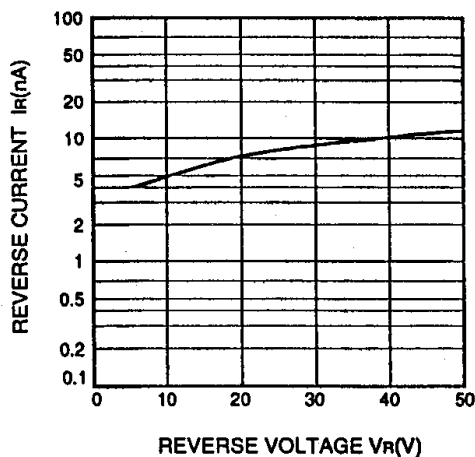


## TYPICAL CHARACTERISTICS

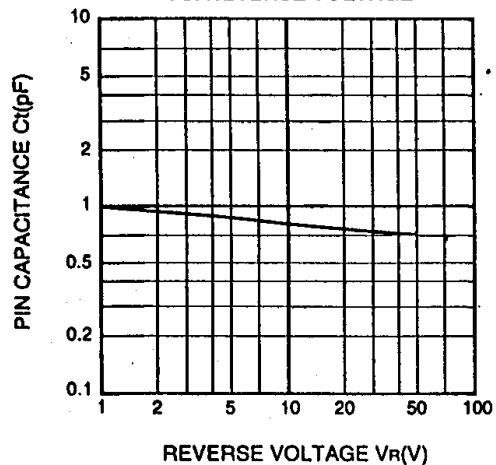
FORWARD CURRENT VS. FORWARD VOLTAGE



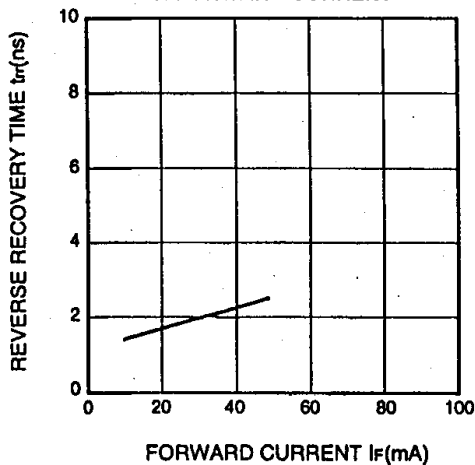
REVERSE CURRENT VS. REVERSE VOLTAGE



PIN CAPACITANCE VS. REVERSE VOLTAGE



REVERSE RECOVERY TIME VS. FORWARD CURRENT



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