Gold Bonded 1N100A Germanium Diodes

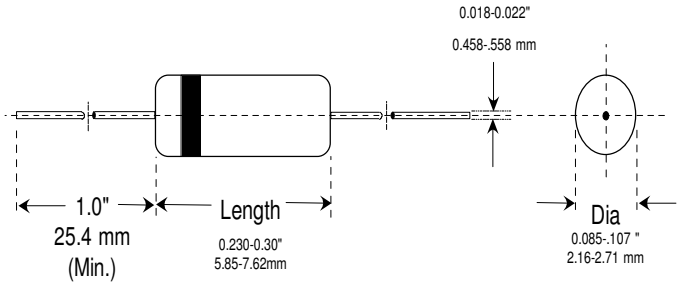
Optimized for Radio Frequency Response

Can be used in many AM, FM and TV-IF applications, replacing point contact devices.

Applications

- AM/FM detectors
- Ratio detectors
- FM discriminators
- TV audio detectors
- RF input probes
- TV video detectors

DO-7 Glass Package



Features

- Lower leakage current
- Flat junction capacitance
- High mechanical strength
- At least 1 million hours MTBF
- BKC's Sigma-Bond™ plating for problem free solderability

Absolute Maximum Ratings at T_{amb} = 25 °C unless otherwise specified

Parameter	Symbols	Min.	Max.	Units
Peak Inverse Voltage	PIV	--	100	Volts
Peak Forward Surge Current Non-Repetitive, t = 1 Second	I_{FSM}		0.4	Amps
Peak Forward Surge Current Repetitive	I_{FSR}		250	mA
Average Rectified Forward Current	I_O		70	mA
Operating Temperatures	$T_{J\ \&\ Op}$	-78	+90	°C
Storage Temperatures	$T_{J\ \&\ STG}$	-78	+100	°C

Electrical Characteristics at T_{amb} = 25 °C

Parameter	Test Conditions	Symbols	Min.	Typ.	Max.	Units
Forward Voltage Drop	I_F = 40mA	V_F			1.0	Volts
Reverse Leakage	V_R = 5 Volts	I_R			5	µA
Reverse Leakage	V_R = 50 Volts	I_R			50	µA
Breakdown Voltage	I_R = 1.0mA	PIV	100			Volts

Microsemi

6 Lake Street - Lawrence, MA 01841

Tel: 978-681-0392 - Fax: 978-681-9135

INTERNATIONAL SEMICONDUCTOR, INC.

GERMANIUM GLASS DIODES

1N34A to 1N3773

MAXIMUM RATINGS *

Operating Temperature: -55 °C to +70 °C

Storage Temperature: -55 °C to +100 °C

* ELECTRICAL CHARACTERISTICS @ 25 C, unless otherwise specified

JEDEC TYPE NUMBERS	PEAK INVERSE VOLTAGE	MAXIMUM FORWARD VOLTAGE		MAXIMUM REVERSE LEAKAGE		REVERSE RECOVERY TIME
	PIV	V_F	I_F	V_R	I_R	T_{RR}
	Volts	Volts	mA	Volts	uA	nsec
1N34A	60	1.0	5	50	30	-
1N55B	180	1.0	5	150	500	-
1N60	50	1.0	5	20	40	-
1N87	22.5	0.3	0.1	1.5	30	-
1N98A	80	1.0	40	50	100	-
1N100A	80	1.0	40	50	50	-
1N270	100	1.0	200	50	100	-
1N276	100	1.0	40	50	100	300
1N277	125	1.0	100	50	250	-
1N278	60	1.0	20	50	125 (1)	-
1N527	10	0.3	1	10	50	-
1N695	20	1.0	100	10	2	300
1N695A	25	0.5	10	10	2	300
1N949	50	0.38	10		10	-
1N995	15	0.5	10	6	10	6
1N996	25	1.0	40	15	15	300
1N3466	40	0.5	200	30	15	-
1N3467	15	0.8	20	10	15	2
1N3489	35	1.0	600	20	15	-
1N3666	80	1.0	200	20	10	300
1N3773	25	0.5	15	3	4	40

* JEDEC Registered Data.

(1) $T_A = 75°C$

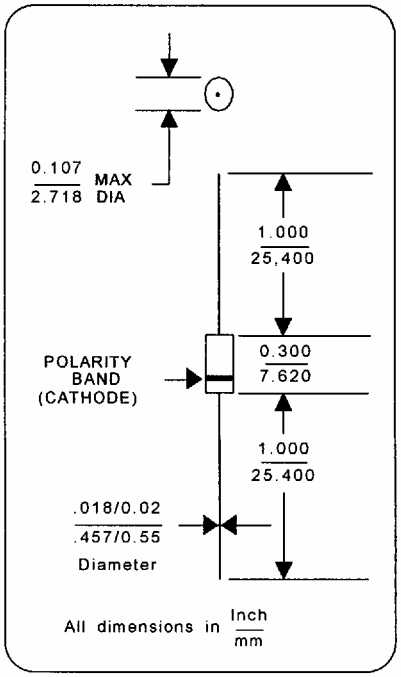


FIGURE 1

DESIGN DATA

CASE: Hermetically sealed glass case. DO-7 Outline.

LEAD MATERIAL: Copper Clad Steel

LEAD FINISH: Tin Plate

THERMAL RESISTANCE: 250 °C/w (Typical) junction to ambient.

POLARITY: Diode to be operated with the banded (cathode) end positive with respect to the opposite end

WEIGHT: 0.2 Grams

MOUNTING POSITION: Any

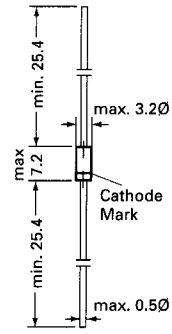
252 Cox Street, Roselle, NJ, USA, 07203-1704 ■ 908 245-2233

Toll-Free (800) 392-2474

Fax: (908) 245-5541

1N 60 P, 1N 60 S
POINT CONTACT GERMANIUM DIODE

Point Contact Germanium Diode
IN 60 is a point contact diode employing N-form Germanium and gives an efficient and excellent linearity when used in TV image detection, FM detection,radio AM detection, etc.



Glass case JEDEC DO-7

Dimensions in mm

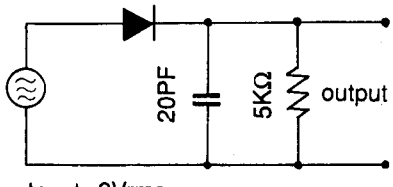
Absolute Maximum Ratings (T_a= 25 °C)

	Symbol	Value	Unit
Peak Reverse Voltage	V_{RM}	45	V
Reverse Voltage dc	V_R	20	V
Peak Forward Current	I_{FM}	150	mA
Average Rectified Output Current	I_O	50	mA
Surge Forward Current	I_{surge}	500	mA
Junction Temperature	T_j	75	°C
Storage Temperature Range	T_S	-55 to + 75	°C

Characteristics (IN 60 P)

		Symbol	Test condition (T_a 25 ± 2 °C)	Min.	Typ.	Max.	Units
Forward Current		I_F	V_F =1V	4	-	-	mA
Reverse Currents	1N 60P	I_R	V_R = 10V	-	-	50	µA
	1N 60S	I_R	-	-	-	100	µA
Junction Capacitance C		-	f = 1MHz,V = -1V	-	-	1	PF
Rectification efficiency		η	Vi = 2Vrms, =5KΩ C = 20PF, f = 40 MHz	55	-	-	%

Pair $\Delta I_F \leq 6$ mA at 1V, $\Delta I_R \leq 20$ µA at 10V



Rectification Efficiency Measurement Circuit

1N 60 P, 1N 60 S
POINT CONTACT GERMANIUM DIODE