

DIODE ARRAY PRODUCT SPECIFICATION

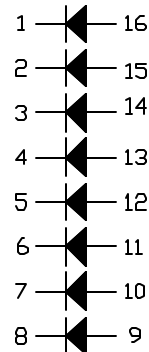
Description

The 1N6101STX diode array has eight high breakdown voltage, fast switching speed diodes. This diode array configuration allows the designer maximum flexibility for circuit design and board layout. Since each diode within the array has individual anode and cathode connections the device may be used in a variety of clamping, and mixing applications.

AIR ISOLATED DIODE ARRAY

FEATURES:

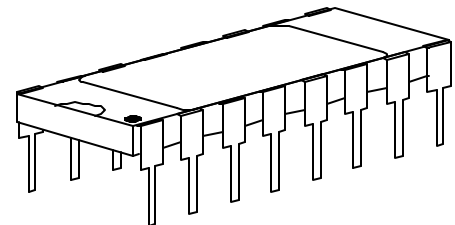
- Hermetic Ceramic Sidebrazed DIP Package
- $B_v > 75V$ at 5uA
- $I_r < 100nA$ at 40V
- Switching Speed $< 5nS$
- $C < 4.0 pF$



Absolute Maximum Ratings (Notes 1,5)

Circuit Diagram

Symbol	Parameter	Limit	Unit
VBR(R) *1 *2	Reverse Breakdown Voltage	75	Vdc
IO *1 *3	Continuous Forward Current	300	mAdc
IFSM *1	Peak Surge Current (tp= 1/120 s)	500	mAdc
	Individual Diode Vf Matching @ 10mA	10	mV
	Lead Temperature(Soldering 10 Sec.)	300	°C
Top	Operating Junction Temperature Range	-65 to +150	°C
Tstg	Storage Temperature Range	-65 to +200	°C
? _{JC}	Thermal Resistance-Junction to case	30	°C/W
? _{JA}	Thermal Resistance-Junction to Ambient	80	°C/W



NOTE 1: Each Diode

NOTE 2: Pulsed: PW = 100ms max.; duty cycle < 20%

NOTE 3: Derate at 2.4mA/°C above +25 °C

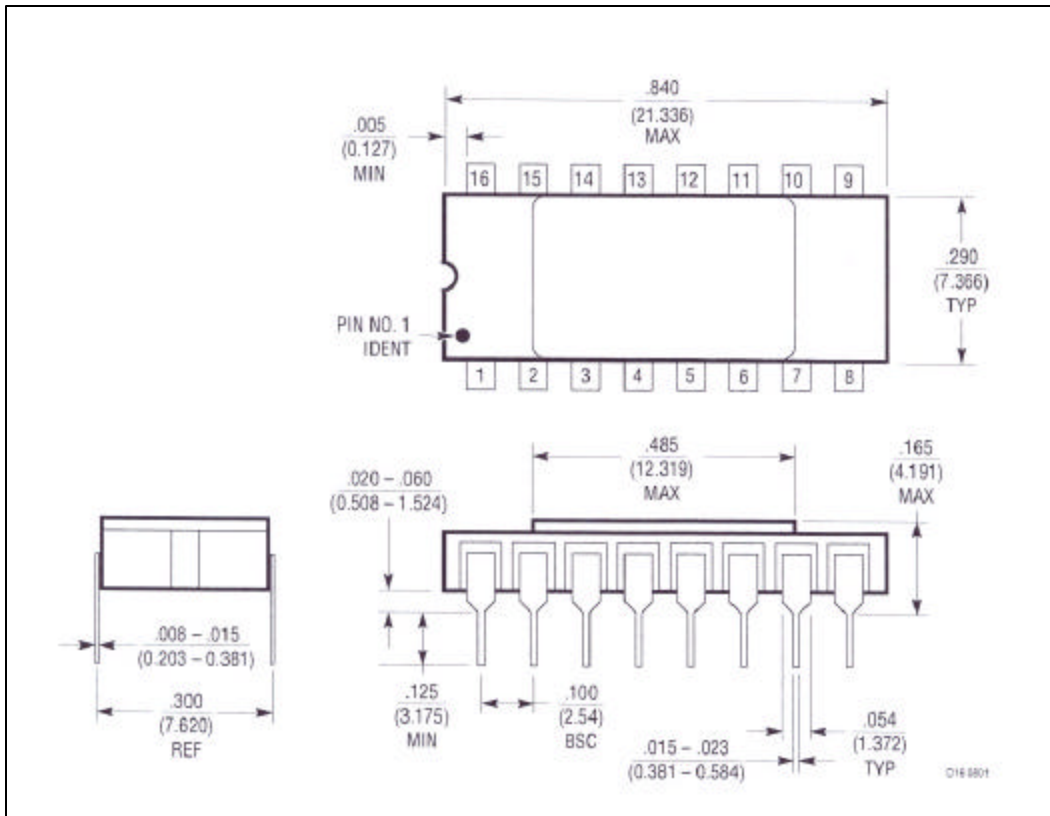
NOTE 4: Derate at 4.0mW/°C above +25 °C

NOTE 5 Exceeding these ratings could cause damage to the device

Electrical Characteristics (Per Diode) @25°C unless otherwise specified

Low duty cycle pulse testing techniques are used which maintain junction and case temperatures equal to the ambient temperature

Parameter	Test Conditions	Min	Typ.	Max	Units
Breakdown Voltage (V_{BR})	$I_R=5\mu A$, Duty Cycle <20%	75			V
Forward Voltage (V_F)	Duty Cycle =20%, 300 us pulse				
	$I_F = 100mA$			1.0	V
	$I_F = 10mA, T_A=-65^\circ C$			1.0	V
Reverse Current(I_R)	$V_R=20V$			25	nA
	$V_R=40V$			100	nA
	$V_R=40V, T_A=+150^\circ C$			50	μA
Capacitance (C) (Note 4)	$V_R=0V, f=1MHz$, Pin to Pin			4	pf
Forward Recovery Time(T_{fr}) (Note 4)	$I_F=500mA, t_r=15ns, V_f=1.8V$ $R_S=50\Omega$			15	ns
Reverse Recovery Time(T_{rr}) (Note 4)	$I_F=I_R=200mA, I_{rr}=20mA, R_L=100\Omega$			5	ns
Note 4 The parameters, although guaranteed, are not 100% tested in production.					



Package Outline

STX Screening Table

SCREEN	MIL-STD-750 METHOD	CONDITION	SCREENING LEVEL
Temperature Cycling	1051	G 10 Cycles	100%
Constant Acceleration	2006	10,000 G's Y1 Axis	100% (IAW MIL-PRF-19500)
Pre Burn-In Electrical Testing	--	--	100%
High Temperature Reverse Bias	Transistors - 1039 FETs – 1042 Diodes – 1038 SCRs - 1040	A B A --	100%
Final Electrical Testing	--	--	100%
Hermetic Seal Fine & Gross Leak	1071	H-Fine Leak D-Gross Leak	100% (For Cavity devices)
Group A	Static Parameters @25°C	JDEC Spec	MIL-PRF_19500
Group B Solderability	2026	--	4 Leads (without aging)
Group B resistance To Solvents	1022	--	3 Devices