

1N4151

Small Signal Switching Diodes

REVERSE VOLTAGE: 50 V

CURRENT: 0.15 A

DO-35(GLASS)

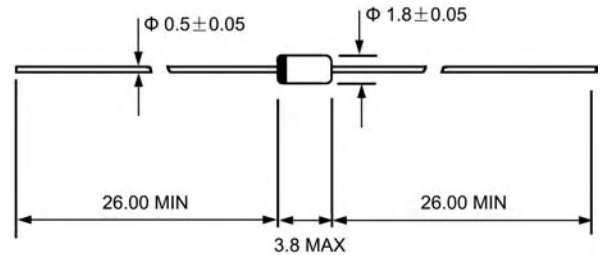


Features

- ◇ Silicon epitaxial planar diode
- ◇ High speed switching diode
- ◇ 500 mW power dissipation

Mechanical Data

- ◇ Case: DO-35,glass case
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.004 ounces, 0.13 grams



Dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

MAXIMUM RATINGS

		1N4151	UNITS
Reverse voltage	V_R	50.0	V
Peak reverse voltage	V_{RM}	75.0	V
Average forward rectified current half wave rectification with resistive load @ $T_A=25^\circ\text{C}$ and $f \geq 50\text{Hz}$	I_{AV}	150 ¹⁾	mA
Forward surge current @ $t < 1\text{s}$ and $T_J=25^\circ\text{C}$	I_{FSM}	500.0	mA
Power dissipation @ $T_A=25^\circ\text{C}$	P_{tot}	500 ¹⁾	mW
Junction temperature	T_J	175	°C
Storage temperature range	T_{STG}	-55 --- +175	°C

1)Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

ELECTRICAL CHARACTERISTICS

		MIN	TYP	MAX	UNITS
Forward voltage @ $I_F=10\text{mA}$	V_F	-	-	1.0	V
Leakage current @ $V_R=50\text{V}$	I_R	-	-	50.0	nA
	I_R	-	-	50.0	μA
Capacitance @ $V_F=V_R=0\text{V}$	C_J	-	-	2	pF
Reverse breakdown voltage tested with 5μA pulses	$V_{(BR)R}$	75.0	-	-	V
Reverse recovery time from $I_F=10\text{mA}$ to $I_R=10\text{mA}$ to $I_R=1\text{mA}$ from $I_F=10\text{mA}$ to $I_R=1\text{mA}$, $V_R=6\text{V}$, $R_L=100\Omega$.	t_{rr}	-	-	4	ns
		-	-	2	ns
Thermal resistance junction to ambient	$R_{\theta JA}$			350 ¹⁾	K/W
Rectification efficiency @ 100MHz, $V_{RF}=2\text{V}$	η_V	0.45	-	-	-

1)Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

Ratings AND Characteristic Curves

**FIG.1 – ADMISSIBLE POWER DISSIPATION
VERSUS AMBIENT TEMPERATURE**

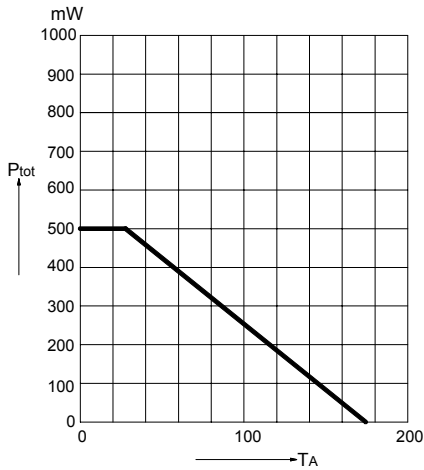


FIG.2 – FORWARD CHARACTERISTICS

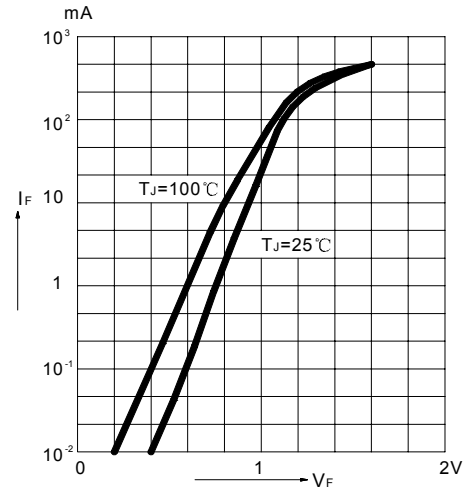
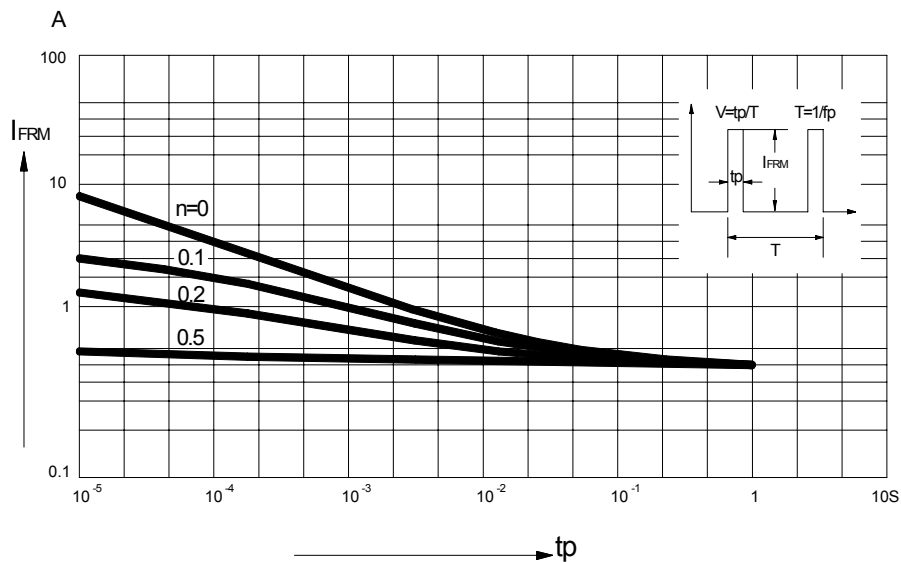


FIG.3 – ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION



Ratings AND Characteristic Curves

FIG.4 – RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

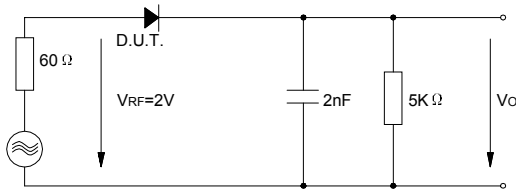


FIG.5 – RELATIVE CAPACITANCE VERSUS VOLTAGE

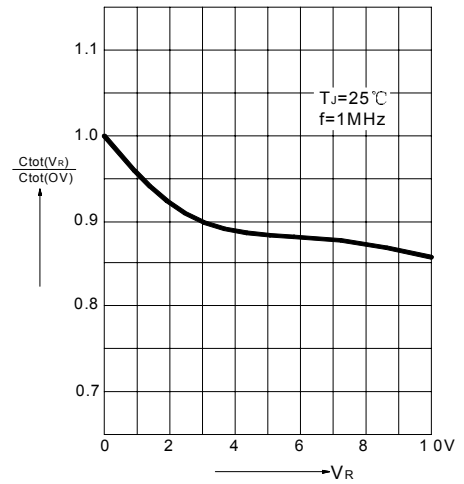


FIG.6 – LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

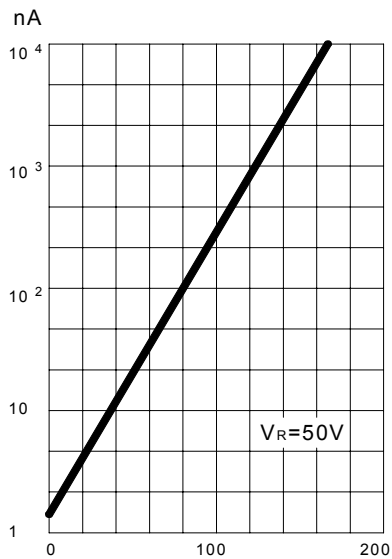


FIG.7 – DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

