

SMALL SIGNAL SWITCHING DIODE

REVERSE VOLTAGE: 50 V
CURRENT: 0.15 A

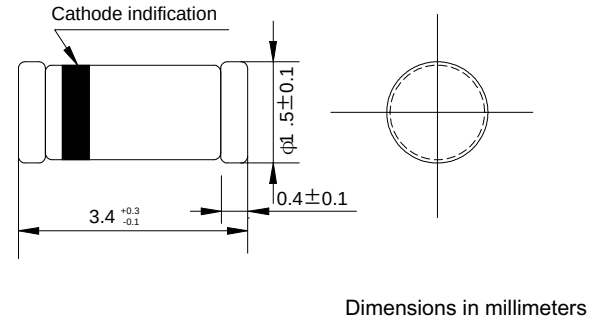
FEATURES

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

MECHANICAL DATA

- ◇ Case: MINI-MELF, glass case
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.031 grams

MINI-MELF



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

MAXIMUM RATINGS

		LL4151	UNITS
Reverse voltage	V_R	50	V
Peak reverse voltage	V_{RM}	75	V
Average forward rectified current half wave rectification with resistive load $V_R=0V$	$I_{F(AV)}$	150 ¹⁾	mA
Forward surge current @ $t_p=1\mu s$	I_{FSM}	2.0	A
Power dissipation @ $T_A=25^\circ C$	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 @ $I_F=50mA$	V_F	-	0.8	1.0	V
Leakage current @ $V_R=50V$	I_R	-	-	50	nA
@ $V_R=50V$ $T_J=150^\circ C$	I_R	-	-	50	μA
Capacitance @ $V_R=0V, f=1MHz, V_{HF}=50mV$	C_J	-	-	2.0	pF
Reverse breakdown voltage tested with 5μA pulses	$V_{(BR)R}$	75.0	-	-	V
Reverse recovery time from $I_F=10mA$ to $I_R=10mA$ to $I_R=1mA$ from $I_F=10mA$ to $I_R=1mA$, $V_R=6V$, $R_L=100\Omega$.	t_{rr}	-	-	4 2	ns ns
Thermal resistance junction to ambient	$R_{\theta JA}$			500 ¹⁾	K/W
Rectification efficiency @ 100MHz, $V_{RF}=2V$	η_V	0.45	-	-	-

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

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FIG.1 -- ADMISSIBLE POWER DISSIPATION
VERSUS AMBIENT TEMPERATURE

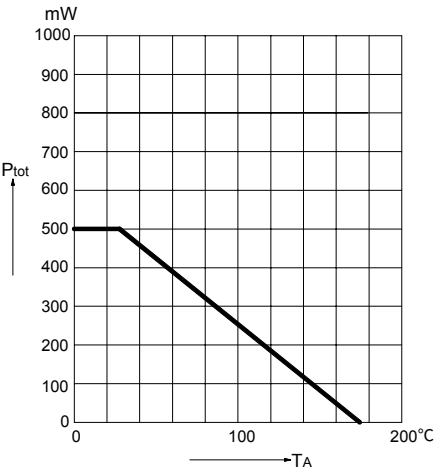


FIG.2 -- FORWARD CHARACTERISTICS

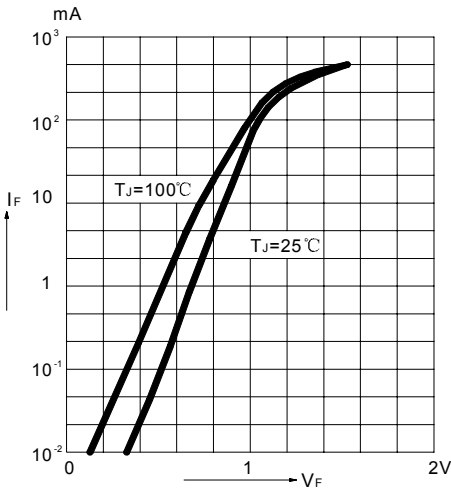


FIG.3 -- ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

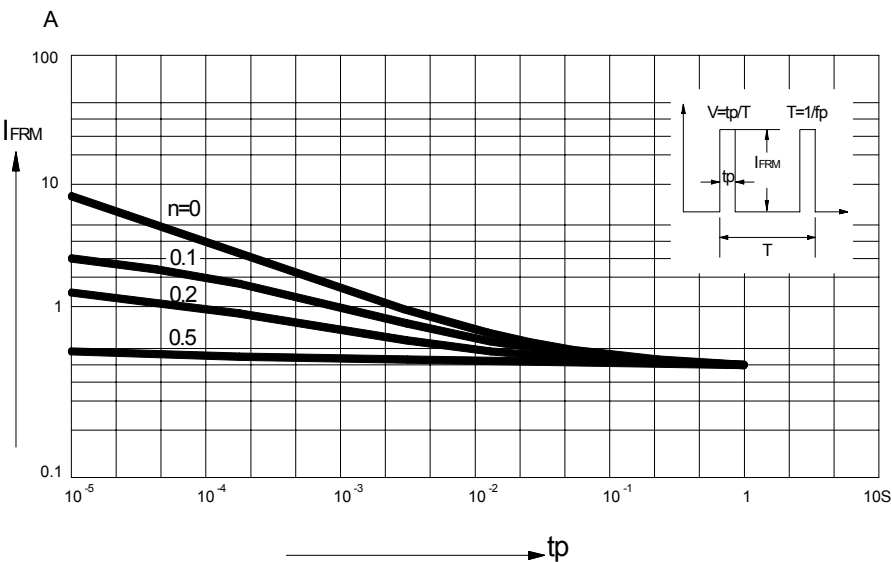


FIG.4 – RECTIFICATION EFFICIENCY
MEASUREMENT CIRCUIT

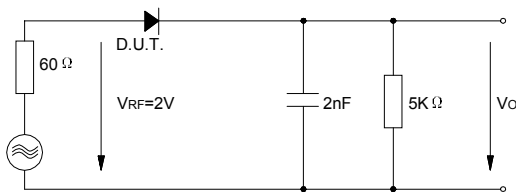


FIG.5 – RELATIVE CAPACITANCE VERSUS
VOLTAGE

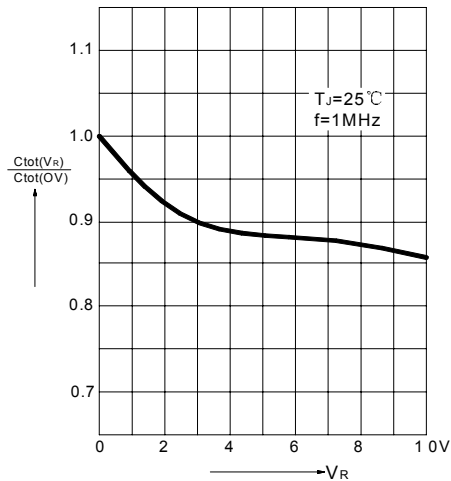


FIG.6 – LEAKAGE CURRENT VERSUS JUNCTION
TEMPERATURE

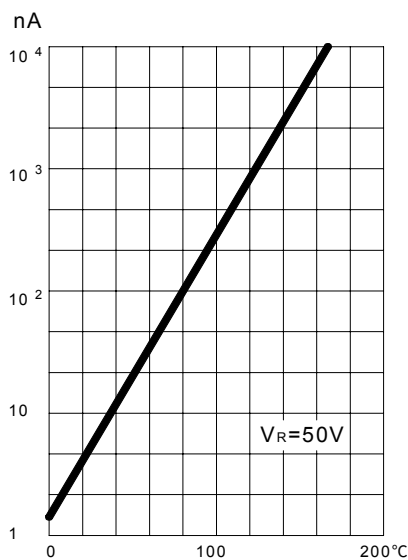


FIG.7 – DYNAMIC FORWARD RESISTANCE
VERSUS FORWARD CURRENT

