

SMALL SIGNAL SWITCHING DIODE

REVERSE VOLTAGE : 75 V
CURRENT: 0.15 A

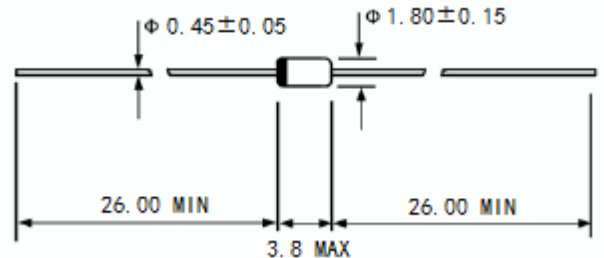
FEATURES

- ◇ Silicon epitaxial planar diode
- ◇ High speed switching diode
- ◇ 500 mW power dissipation
- ◇ These diodes are also available in glass case
DO-34. Mini-MELF

MECHANICAL DATA

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

DO-35(GLASS)



Dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

MAXIMUM RATINGS

		1N4148	UNITS
Reverse voltage	V_R	75.0	V
Peak reverse voltage	V_{RM}	100.0	V
Average forward rectified current half wave rectification with resist.load @ $T_A=25^\circ\text{C}$ and $f \geq 50\text{Hz}$	I_{AV}	150.0	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 at $I_F=10\text{mA}$	V_F	-	-	1.0	V
Leakage current @ $V_R=20\text{V}$	I_R	-	-	25.0	nA
@ $V_R=75\text{V}$	I_R	-	-	5.0	μA
@ $V_R=20\text{V}$ $T_J=150^\circ\text{C}$	I_R	-	-	50.0	μA
Capacitance @ $V_F=V_R=0\text{V}$	C_J	-	-	4	pF
Voltage rise when switching on tested with 50mA pulses $t_p=0.1\mu\text{s}$. Rise time $< 30\text{ns}$. $f_p=5$ to 100KHz	V_{fr}	-	-	2.5	V
Reverse recovery time 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
Thermal resistance junction to ambient	$R_{\theta JA}$			350 ¹⁾	K/W
Rectification efficiency at 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.

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FIG.1 – ADMISSIBLE POWER DISSIPATION
VERSUS AMBIENT TEMPERATURE

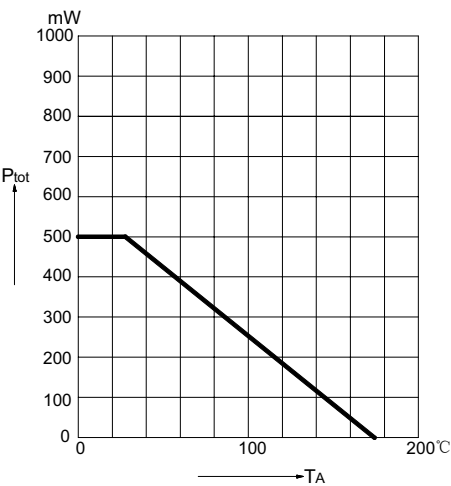


FIG.2 – FORWARD CHARACTERISTICS

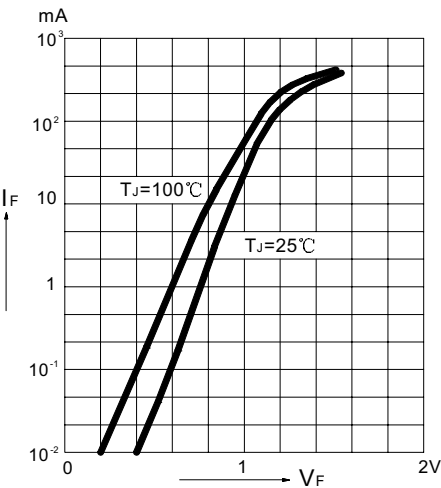


FIG.3 – ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

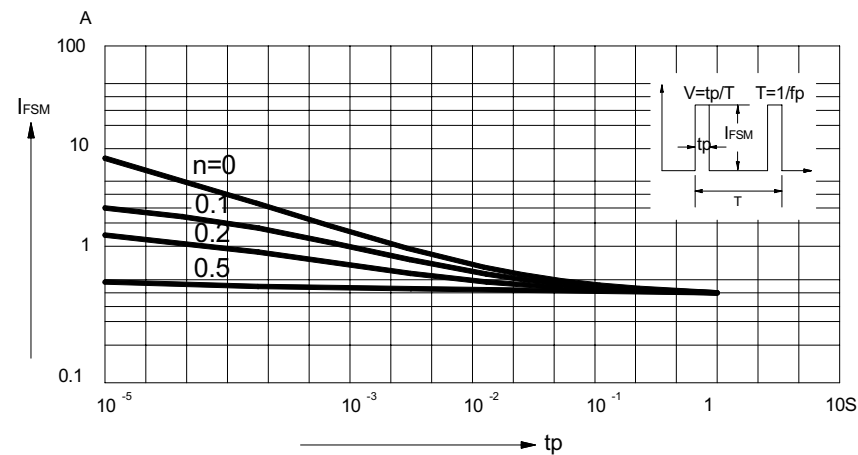


FIG.4 – RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

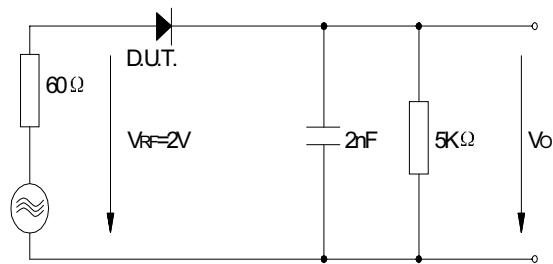


FIG.5 – RELATIVE CAPACITANCE VERSUS VOLTAGE

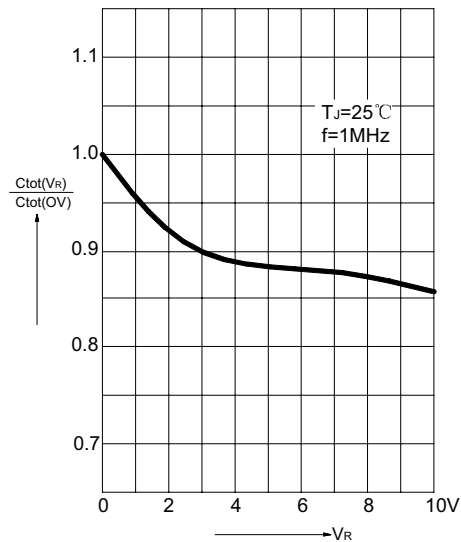


FIG.6 – LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

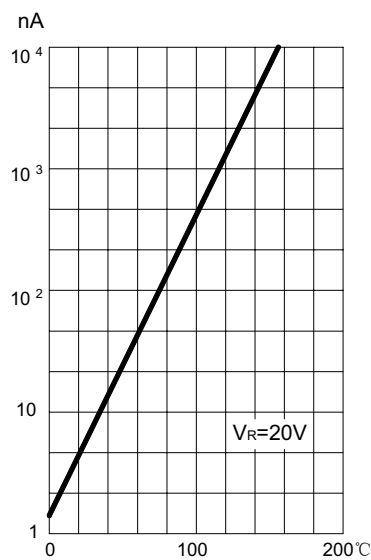


FIG.7 – DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

