



## Features:

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

## Mechanical Data:

- Case: DO-35, glass case
- Polarity: Colour band denotes cathode
- Weight: 0.004oz, 0.13g

## Maximum Ratings and Electrical Characteristics:

Ratings at 25°C ambient temperature unless otherwise specified.

Characteristics		Values	Units
Reverse voltage	$V_R$	75	V
Peak reverse voltage	$V_{RM}$	100	V
Average forward rectified current half wave rectification with resist. load at $T_A=25^\circ\text{C}$ and $f \geq 50\text{Hz}$	$I_{AV}$	150	mA
Forward surge current at $t < 1\text{s}$ and $T_J = 25^\circ\text{C}$	$I_{FSM}$	500	mA
Power dissipation at $T_A=25^\circ\text{C}$ (Note 1)	$P_{tot}$	500*	mW
Junction temperature	$T_J$	175	°C
Storage temperature range	$T_{STG}$	-55 to +175	°C

### Note

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

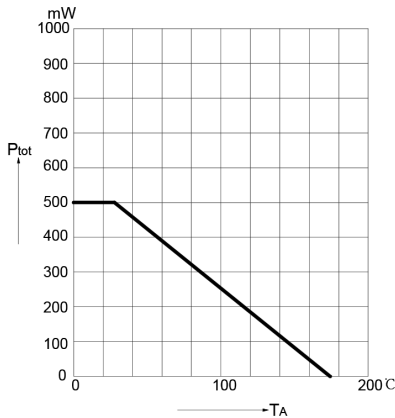
## Electrical Characteristics:

Characteristics		Min.	Typ.	Max.	Units
Forward voltage at $I_F=10\text{mA}$	$V_F$	-	-	1	V
Leakage current					
at $V_R=20\text{V}$	$I_R$	-	-	25	nA
at $V_R=75\text{V}$		-	-	5	µA
at $V_R=20\text{V}$ $T_J = 150$		-	-	50	µA
Capacitance at $V_F=V_R=0\text{V}$	$C_J$	-	-	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 (Note 1)	$R_{\theta JA}$			350*	k/W
Rectification efficiency at 100MHz, $V_{RF}=2\text{V}$	$\eta_V$	0.45	-	-	-

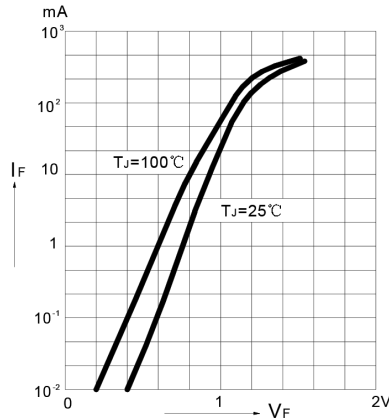
### Note

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

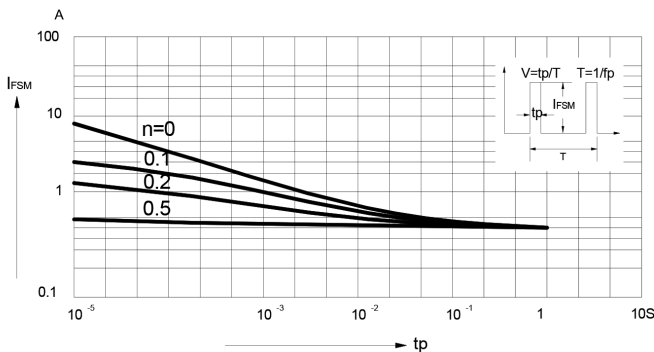
**FIG.1 – ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE**



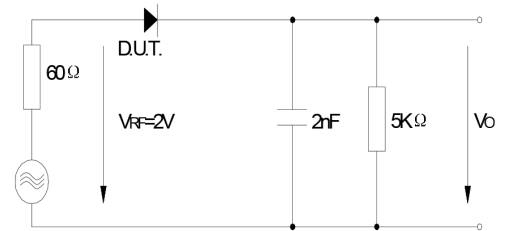
**FIG.2 – FORWARD CHARACTERISTICS**



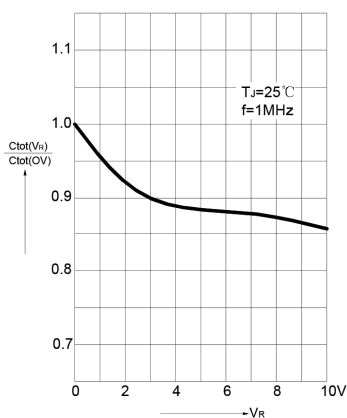
**FIG.3 – ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION**



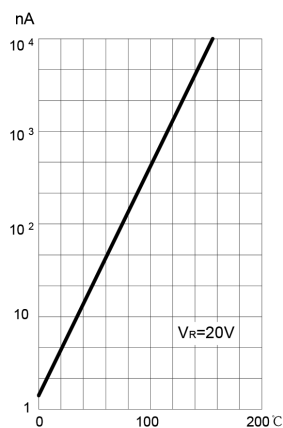
**FIG.4 – RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT**



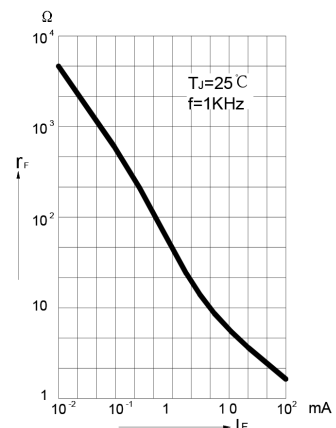
**FIG.5 – RELATIVE CAPACITANCE VERSUS VOLTAGE**



**FIG.6 – LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE**

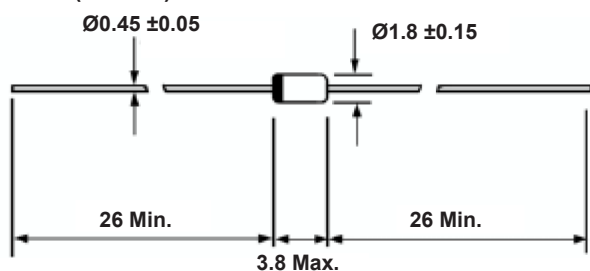


**FIG.7 – DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT**



## Diagram

DO-35 (GLASS)



Dimensions : Millimetres

## Part Number Table

Description	Part Number
Small Signal Switching Diode	1N4148

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