

Small Signal Fast Switching Diode



Features

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

Mechanical Data

Case	: Mini-MELF glass case
Polarity	: Colour band denotes cathode
Weight	: Approx. 0.05 grams
Reverse Voltage	: 75 Volts
Forward Current	: 0.15 Ampere

Maximum Ratings and Electrical Characteristics:

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Characteristics	Symbol	Values	Unit
Reverse Voltage	V_R	75	V
Peak Reverse Voltage	V_{RM}	100	V
Average Forward Rectified Current Half Wave Rectification with Resist .load at $T_{amb} = 25^\circ\text{C}$ and $f \geq 50\text{HZ}$	I_o	150	mA
Forward Surge Current at $t < 1\text{s}$ and $T_J = 25^\circ\text{C}$	I_{FSM}	500	mA
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	P_{tot}	500 ⁽¹⁾	mW
Junction Temperature	T_J	175	°C
Storage Temperature Range	T_{STG}	-65 to +175	°C

Note:(1) Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage at $I_F = 10\text{mA}$	V_F				V
Leakage Current at $V_R = 20\text{V}$	I_R	-	-	25	nA
at $V_R = 75\text{V}$	I_R	-	-	5	µA
at $V_R = 20\text{V}$ $T_J = 150^\circ\text{C}$	I_R	-	-	50	µA
Capacitance at $V_F = V_R = 0\text{V}$	C_{tot}	-	-	4	pF
Voltage Rise When Switching ON Tested With 50mA Pulses $t_p = 0.1\mu\text{s}$. Rise Time<30ns. $f_p = 5$ to 100Hz	V_{fr}	-	-	2.5	V
Reverse Recovery Time From $I_F = 10\text{mA}$ $V_R = 6\text{V}$. $R_L = 100\Omega$ at $I_R = 1\text{mA}$	t_{rr}	-	-	4	nS
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	-	-	350 ⁽¹⁾	°C/W
Rectification Efficiency at 100MHz $V_{RF} = 2\text{V}$	η_V	0.45	-	-	-

Note:(1) Valid provided that electrodes are kept at ambient temperature.

www.element14.com
www.farnell.com
www.newark.com



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Ratings and Characteristic Curves

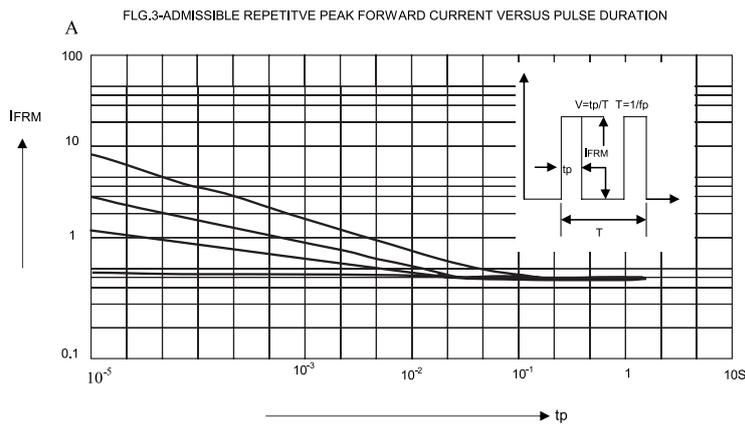
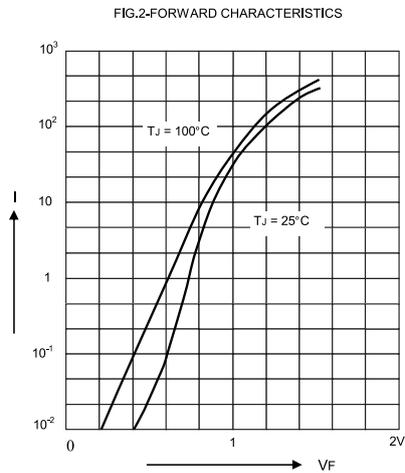
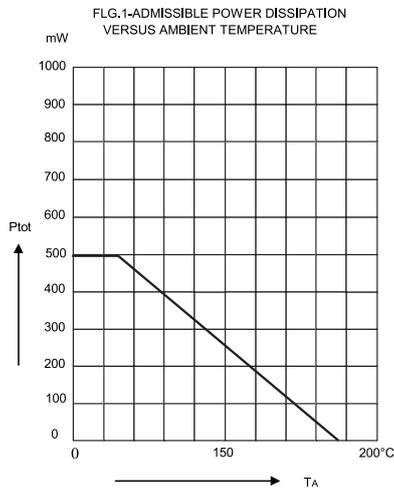


FIG.4-RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

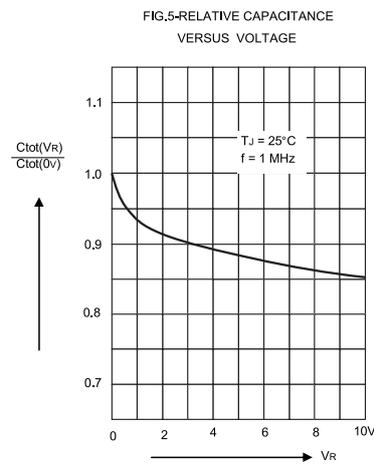
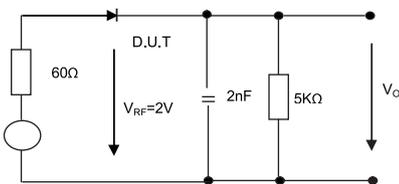
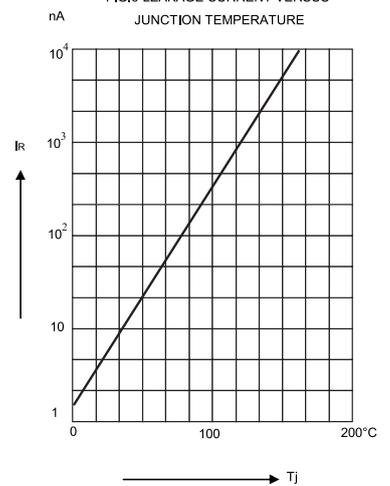


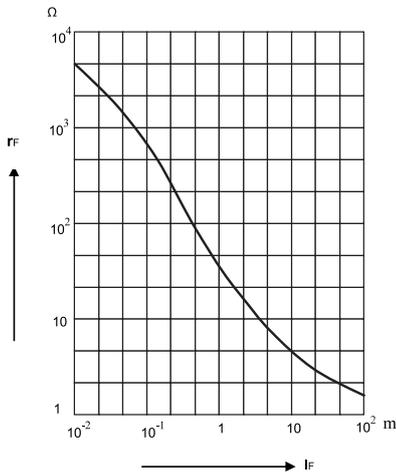
FIG.6-LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE



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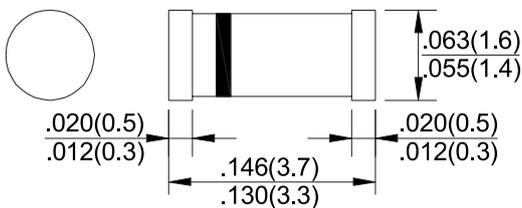


FIG.7-DYNAMIC FORWARD RESISTANCE
VERSUS FORWARD CURRENT



Dimensions:

DL - 35



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Small Signal Fast Switching Diode	LL4148+

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