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SILICON EPITAXIAL PLANAR DIODE

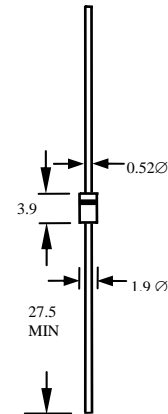
1N4148-LFR

FEATURES

- FAST SWITCHING
- SMALL SIZE
- ROHS

MECHANICAL DATA

- CASE: GLASS, DO35, DIMENSIONS IN MILLIMETERS
- LEADS: SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: CATHODE INDICATED BY COLOR BAND
- WEIGHT: 0.13 GRAMS



RATINGS	SYMBOL	1N4148-LFR	UNITS
REVERSE VOLTAGE	V_R	75	V
PEAK REVERSE VOLTAGE	V_{RM}	100	V
RECTIFIED CURRENT (AVERAGE) HALF WAVE RECTIFICATION WITH RESIST LOAD AT $T_{amb}=25\text{ }^\circ\text{C}$ AND $f \geq 50\text{HZ}$ (NOTE 1)	I_O	150	mA
SURGE FORWARD CURRENT AT $T < 1\text{ s}$ AND $T_J=25\text{ }^\circ\text{C}$	I_{FSM}	500	mA
POWER DISSIPATION AT $T_{amb}=25\text{ }^\circ\text{C}$	P_{TOT}	500	mW
JUNCTION TEMPERATURE	T_J	200	$^\circ\text{C}$
STORAGE TEMPERATURE RANGE	T_S	- 55 TO + 200	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($A_T T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

CHARACTERISTICS @ $T_J = 25\text{ }^\circ\text{C}$	SYMBOL	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 $V_R=75\text{V}$	I_R	-	-	5	μA
AT $V_R=20\text{V}$ $T_J=150\text{ }^\circ\text{C}$	I_R	-	-	50	μA
REVERSE BREAKDOWN VOLTAGE TESTED WITH $100\mu\text{A}$ PULSES	V_R	100	-	-	V
CAPACITANCE AT $V_F=V_R=0$	C_{TOT}	-	-	4	PF
VOLTAGE RISE WHEN SWITCHING ON TESTED WITH 50mA FORWARD PULSES $TP=0.1\mu\text{s}$ RISE TIME $< 30\text{ns}$ $F_p=5$ TO 100 KHZ	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 AIR (NOTE 1)	R_{THA}	-	-	0.35	K / mW
RECTIFICATION EFFICIENCY AT $f=100\text{MHZ}$ $V_{RF}=2\text{V}$	N_V	0.45	-	-	-

NOTE:

1. LEADS KEPT AT AMBIENT TEMP. AT 8mm LENGTH

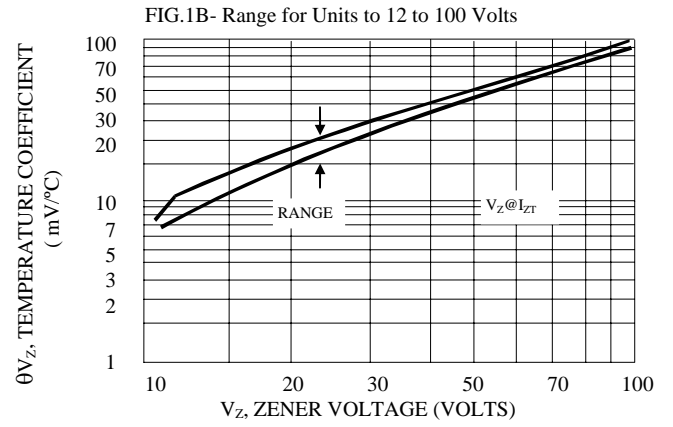
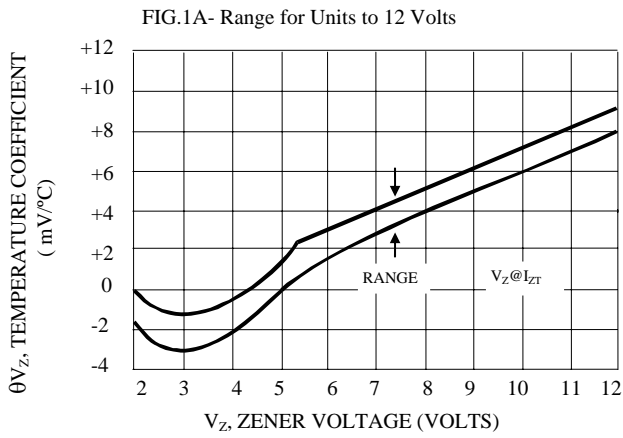


Figure 2. Temperature Coefficients (-55°C to +150°C temperature change; 90% of the units are in the ranges indicated.)

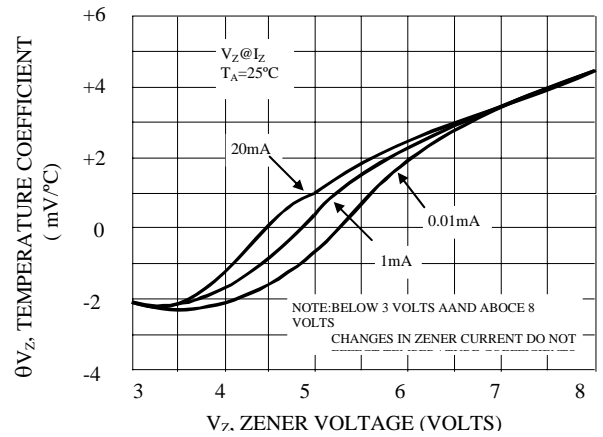
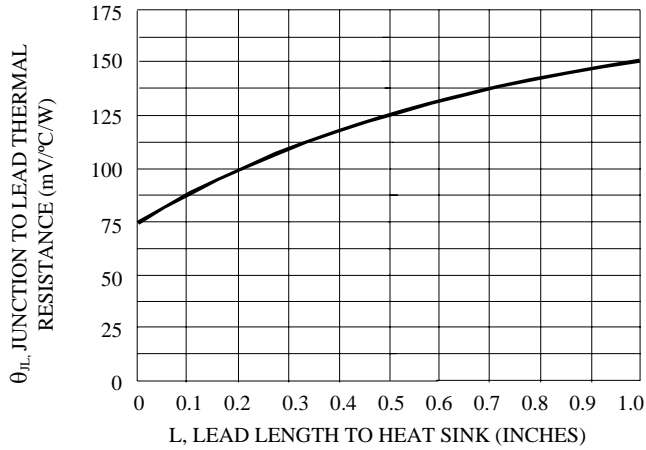


Figure 3. Typical Thermal Resistance versus Lead Length

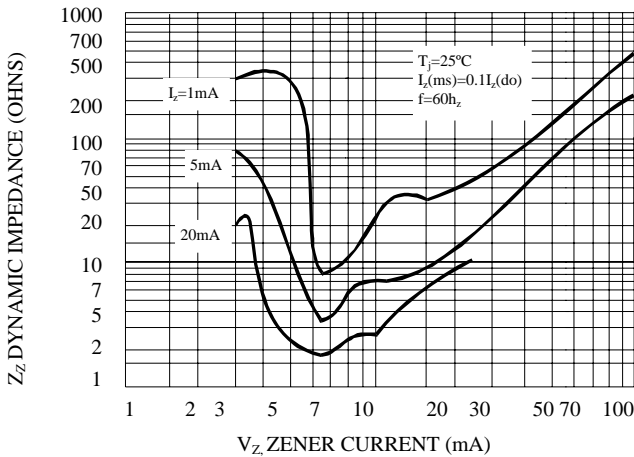


Figure 4. Effect of Zener Current

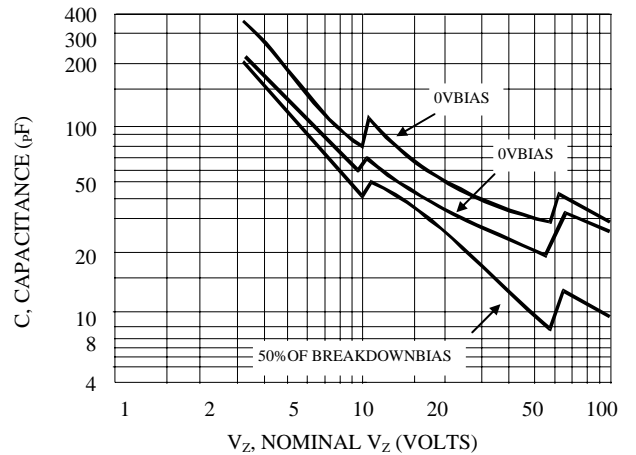


Figure 7 - Power Temperature Derating Curve

