

MM4148

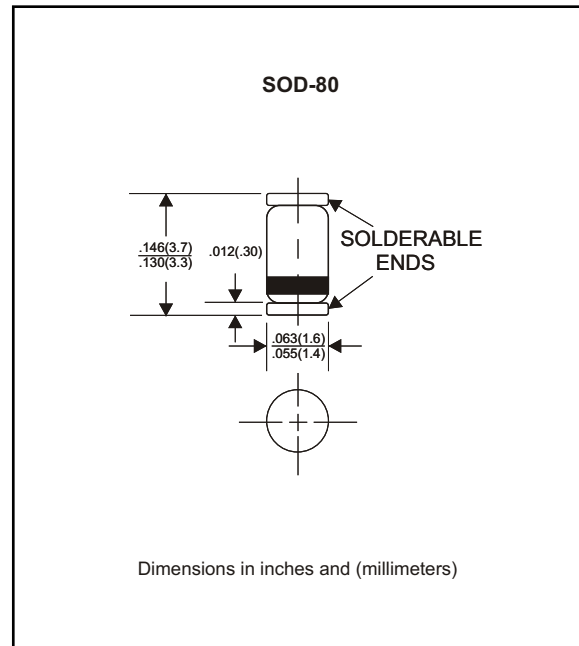
Silicon epitaxial planar type

Features

- Small surface mounting type
- High reliability
- High speed ($t_{rr} < 4 \text{ ns}$)

Mechanical data

Case : Glass, SOD-80 (MINI-MELF)
 Terminals : Solder plated, solderable per MIL-STD-750,
 Method 2026
 Polarity : Indicated by cathode band
 Mounting Position : Any
 Weight : 0.015 gram



MAXIMUM RATINGS (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Repetitive peak reverse voltage		V_{RRM}			100	V
Reverse voltage		V_R			75	V
Peak forward surge current	$t_p = 1 \text{ us}$	I_{FSM}			2.0	A
Repetitive peak forward voltage		I_{FRM}			500	mA
Forward current		I_F			300	mA
Average forward current	$V_R = 0$	I_{FAV}			150	mA
Power dissipation		P_V			500	mW
Junction temperature		T_j			175	$^\circ\text{C}$
Storage temperature		T_{STG}	-55		+175	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 5\text{mA}$	V_F	0.62		0.72	V
	$I_F = 10\text{mA}$	V_F		0.86	1.00	V
Reverse current	$V_R = 20\text{V}$	I_R			25	nA
	$V_R = 20\text{V}, T_j = 150^\circ\text{C}$	I_R			50	μA
	$V_R = 75\text{V}$	I_R			5.0	μA
Breakdown current	$I_R = 100\mu\text{A}, T_p/T = 0.01, T_p = 0.3\text{ms}$	$V_{(BR)}$	100			V
Diode capacitance	$V_R = 0, f = 1\text{MHz}, V_{HF} = 50\text{mV}$	C_D			4.0	pF
Rectification efficiency	$V_{HF} = 2\text{V}, f = 100\text{MHz}$	η_R	45			%
Reverse recovery time	$I_F = I_R = 10\text{mA}, I_{RR} = 1\text{mA}$	t_{rr}			8	ns
	$I_F = 10\text{mA}, V_R = 6\text{V}, I_{RR} = 0.1 \times I_R, R_L = 100\Omega$	t_{rr}			4	ns

RATING AND CHARACTERISTIC CURVES (MM4148)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

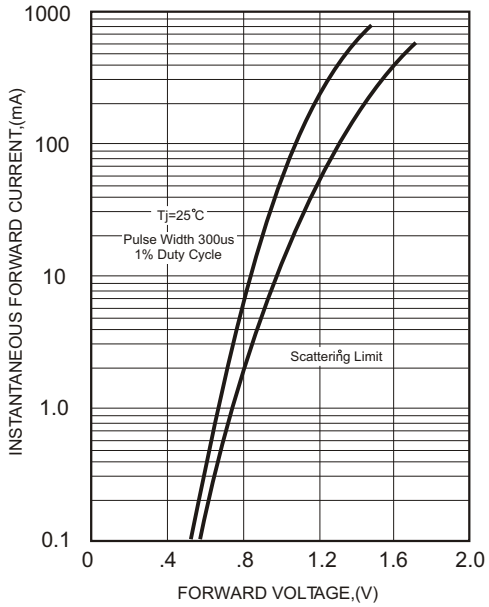


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

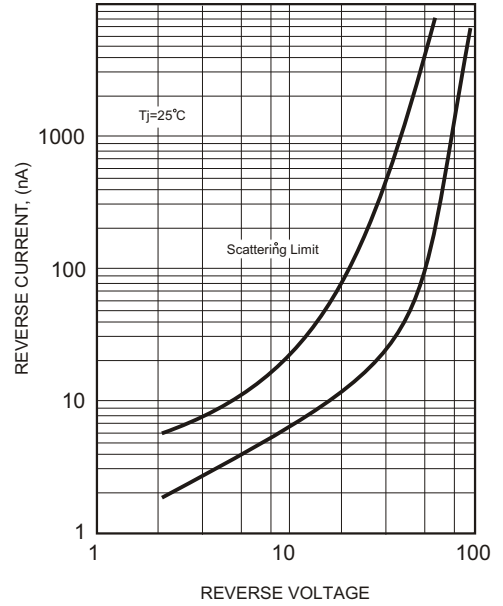


FIG.2 - TYPICAL DIODE CAPACITANCE

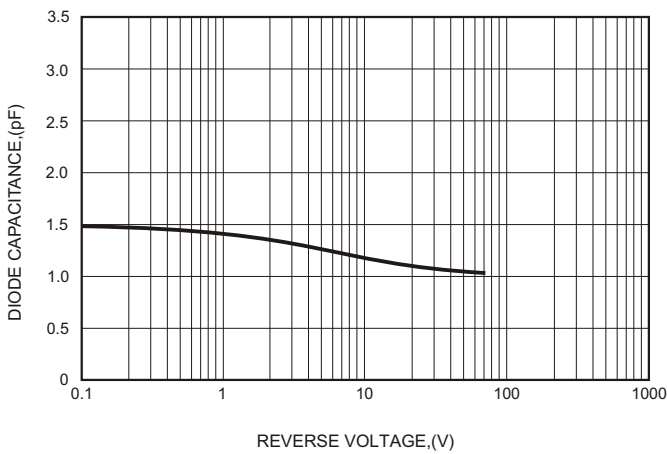


FIG.4 - REVERSE CURRENT VS JUNCTION TEMPERATURE

