

FM0240-V

List

List.....	1
Package outline.....	2
Features.....	2
Mechanical data.....	2
Maximum ratings	2
Electrical characteristics.....	2
Rating and characteristic curves.....	3
Pinning information.....	4
Marking.....	4
Suggested solder pad layout.....	4
Packing information.....	5
Reel packing.....	6
Suggested thermal profiles for soldering processes.....	6
High reliability test capabilities.....	7

FM0240-V

0.2A Surface Mount Small Signal Schottky Diode 40V

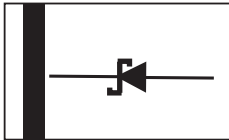
Features

- Small body outline dimensions:
0.039" X 0.024" (1.0mm X 0.60mm)
- Low reverse current
- Suffix "-H" for Halogen-free part, ex. FM0240-V-H

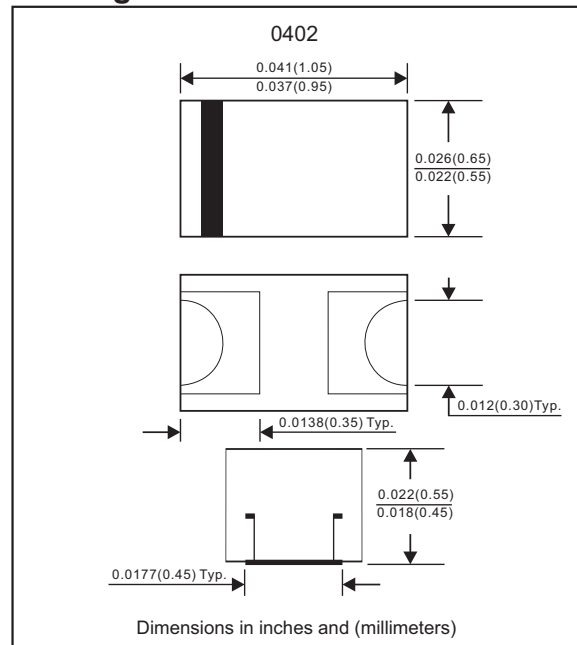
Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case: Molded plastic, 0402
- Terminals: Golden Plated terminals, solderable per MIL-STD-750, Method 2026
- Marking Code: I
- Weight: Approximated 0.001gram

Schematic & Pin Configuration



Package outline



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

Parameter	symbol	FM0240-V	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	40	V
Maximum RMS voltage	V_{RMS}	28	V
Maximum DC blocking voltage	V_{DC}	40	V
Forward rectified current	I_o	0.2	A
Non-repetitive peak forward surge current 8.3ms single half sine-wave	I_{FSM}	1.0	A
Typical Junction Capacitance between Terminal(Note 1)	C_J	6.0	pF
Operating junction temperature range	T_J	-55 to +125	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^\circ\text{C}$

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

Parameter	symbol	FM0240-V	Unit
Maximum instantaneous forward voltage @ $I_F=0.2\text{A}$	V_F	0.60	V
Maximum DC reverse current at Rated DC blocking voltage, $T_J=25^\circ\text{C}$	I_R	5.0	μA
Typical DC reverse current @ $V_R=10\text{V}$, $T_J=25^\circ\text{C}$		1.0	

Note : 1. Measured at 1.0 MHz and applied reverse voltage of 10.0 volts.

Rating and characteristic curves (FM0240-V)

FIG. 1 - TYPICAL FORWARD CHARACTERISTICS

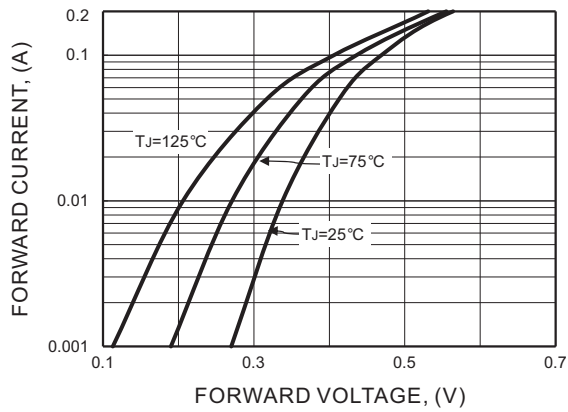


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

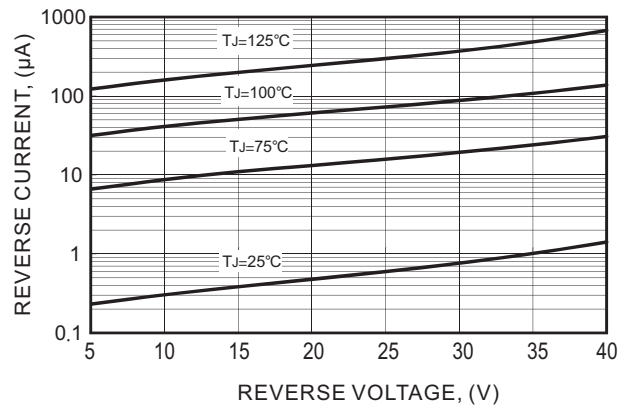


FIG. 3 - TYPICAL JUNCTION CAPACITANCE

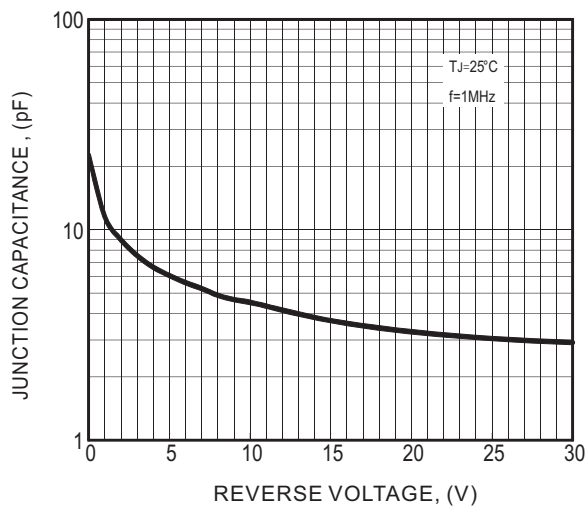
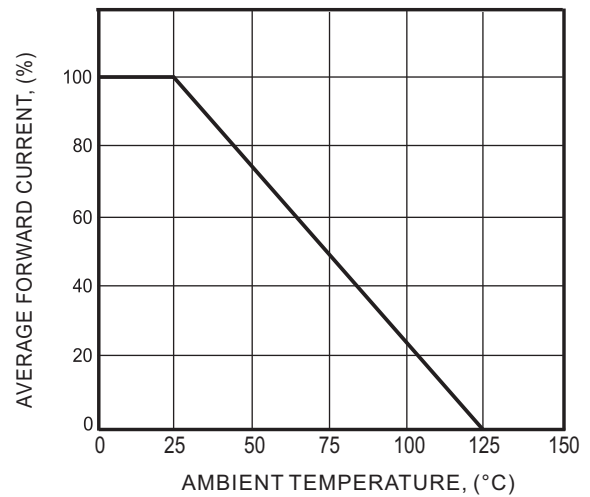


FIG. 4 - TYPICAL FORWARD CURRENT DERATING CURVE

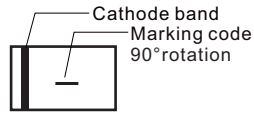


FM0240-V

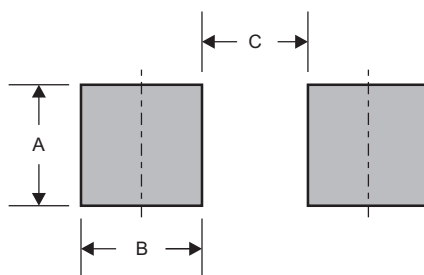
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code	Example
FM0240-V	I	

Suggested solder pad layout

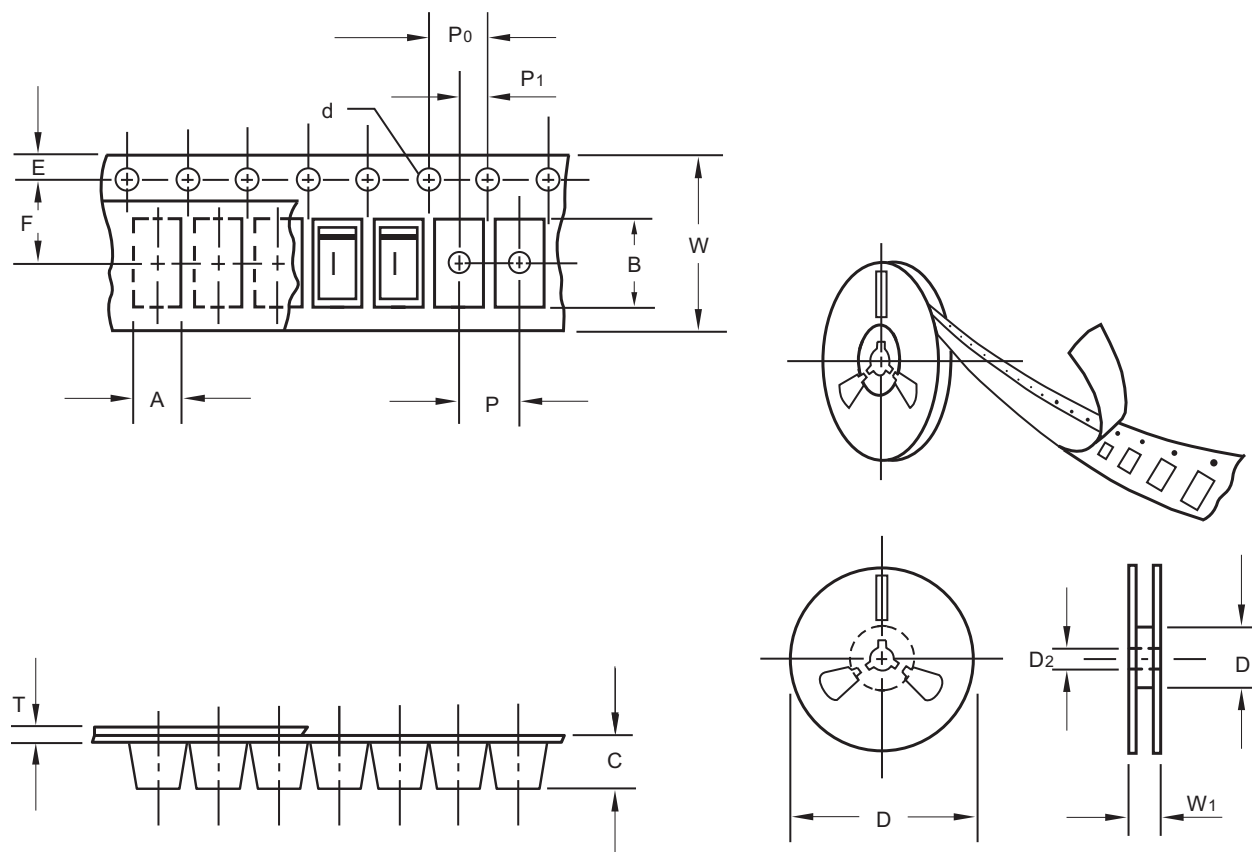


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
0402	0.028 (0.70)	0.020 (0.50)	0.010 (0.25)

FM0240-V

Packing information



unit:mm

Item	Symbol	Tolerance	0402
Carrier width	A	0.05	0.74
Carrier length	B	0.05	1.17
Carrier depth	C	0.05	0.62
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D1	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	62.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	2.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W1	1.0	11.40

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

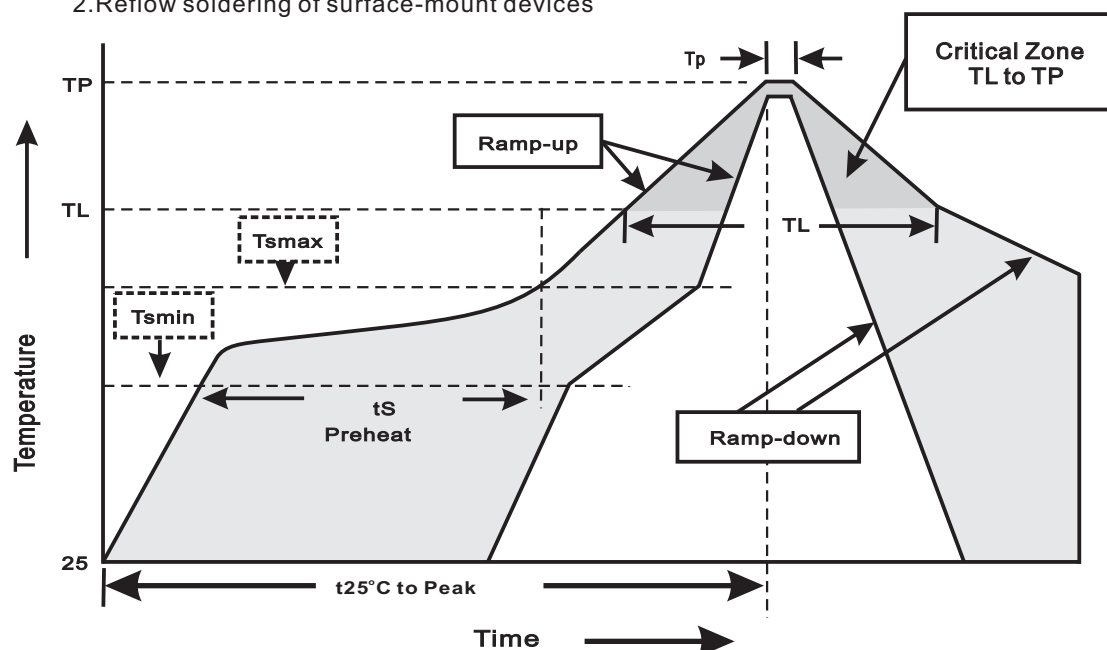
FM0240-V

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
0402	7"	10,000	2.0	100,000	183*123*183	178	382*257*387	800,000	8.5

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T _L to T _P)	<3°C/sec
Preheat -Temperature Min(T _{smín}) -Temperature Max(T _{smáx}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{smáx} to T _L -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T _L) -Time(t _L)	217°C 60~260sec
Peak Temperature(T _P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t _P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes

FM0240-V

High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at $260 \pm 5^\circ\text{C}$ for $10 \pm 2\text{sec.}$	MIL-STD-750D METHOD-2031
2. Solderability	at $245 \pm 5^\circ\text{C}$ for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	$V_R = 80\%$ rate at $T_J = 125^\circ\text{C}$ for 168 hrs.	MIL-STD-750D METHOD-1038
4. Forward Operation Life	Rated average rectifier current at $T_A = 25^\circ\text{C}$ for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	$T_A = 25^\circ\text{C}$, $I_F = I_O$ On state: power on for 5 min. off state: power off for 5 min. on and off for 500 cycles.	MIL-STD-750D METHOD-1036
6. Pressure Cooker	$15P_{SIG}$ at $T_A = 121^\circ\text{C}$ for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to $+125^\circ\text{C}$ dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8 Forward Surge	8.3ms single half sine-wave , one surge	MIL-STD-750D METHOD-4066-2
9. Humidity	at $T_A = 85^\circ\text{C}$, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
10. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031