

FM5H100-T5060

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FM5H100-T5060

5.0A Surface Mounted Schottky Barrier Rectifiers 100V

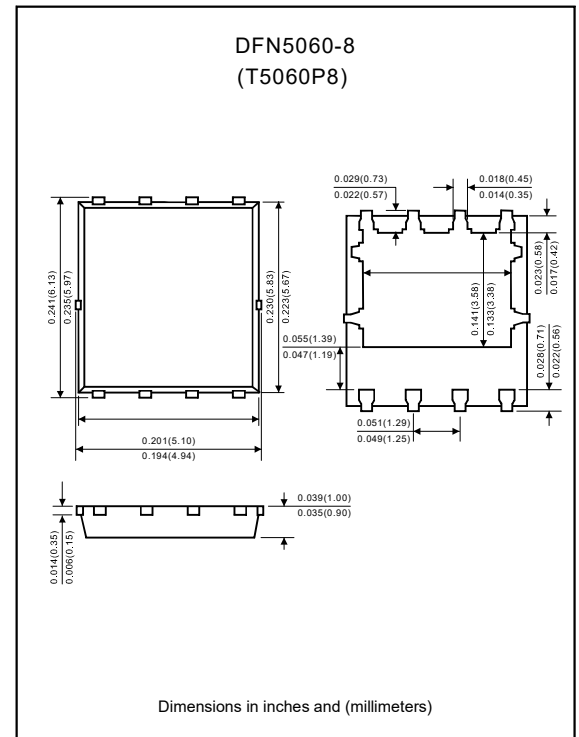
Features

- Low power loss.
- High efficiency.
- Guardring for stress protection.
- Low forward voltage.
- Lead free finish, RoHS compliant.
- Suffix "-H" indicates Halogen free parts, ex. FM5H100-T5060-H.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant.
- Case : Molded plastic, DFN5060-8(T5060P8).
- Terminals : Tin plated , solder able per MIL-STD-202, Method 208.
- Polarity : Polarity symbol marking on body.
- Mounting Position : Any.

Package outline



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

Parameter	Symbol	Value	Unit
Peak repetitive reverse voltage	V_{RRM}	100	V
Working peak reverse voltage	V_{RWM}	100	V
DC blocking voltage	V_R	100	V
Continuous forward current	I_F	5	A
Peak forward surge current (8.3ms single half sine-wave)	I_{FSM}	180	A
Thermal resistance junction-to-case (Note2)	$R_{\theta JC}$	2.4	$^\circ\text{C/W}$
Operating junction temperature range	T_J	-55~ +175	$^\circ\text{C}$
Storage temperature range	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 (Note1)	$I_F=5\text{A}$ ($T_J=25^\circ\text{C}$)	V_F	-	0.72	0.8	V
	$I_F=5\text{A}$ ($T_J=125^\circ\text{C}$)		-	0.56	-	
Maximum Peak Reverse Current (Note1)	$V_R=100\text{V}$ ($T_J=25^\circ\text{C}$)	I_R	-	0.09	3	μA
	$V_R=100\text{V}$ ($T_J=125^\circ\text{C}$)		-	250		μA

Note :

1. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.
2. Surface mounted on 1 in² pad FR4, t $\leq$ 10 sec.

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Rating and characteristics curves (At $T_A = 25^\circ\text{C}$ unless otherwise specified)

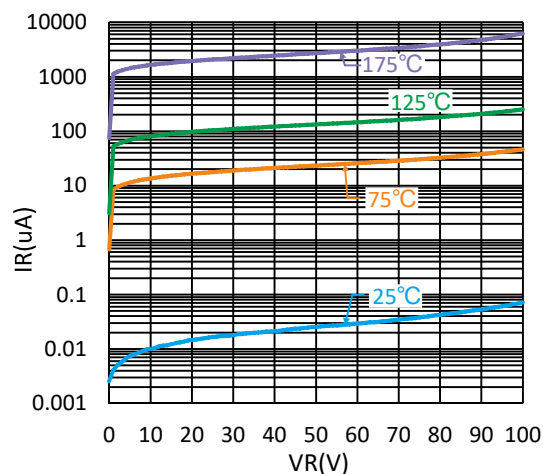


Fig 1 Typical Reverse Characteristic

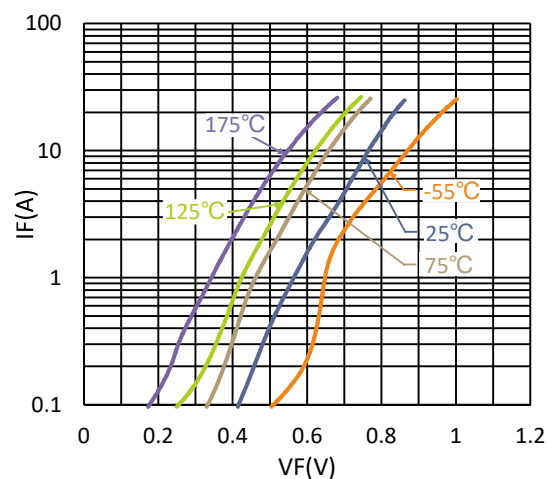


Fig 2 Typical Forward Characteristics

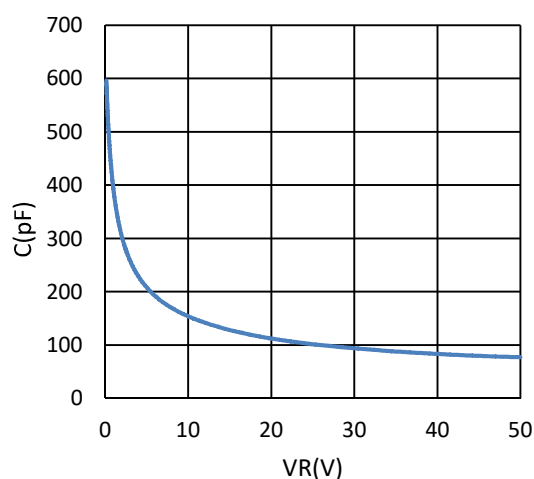


Fig 3 Typical C_J Cure

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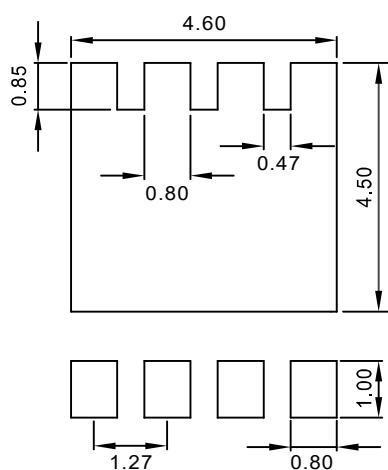
Pinning information

Pin	Simplified outline	Symbol
Pin 1 : Anode Pin 2 : Anode Pin 3 : Anode Pin 4 : Not Connected Pin 5 : Cathode Pin 6 : Cathode Pin 7 : Cathode Pin 8 : Cathode		

Marking

Type Number	Marking Code
FM5H100-T5060	5100

Suggested solder pad layout



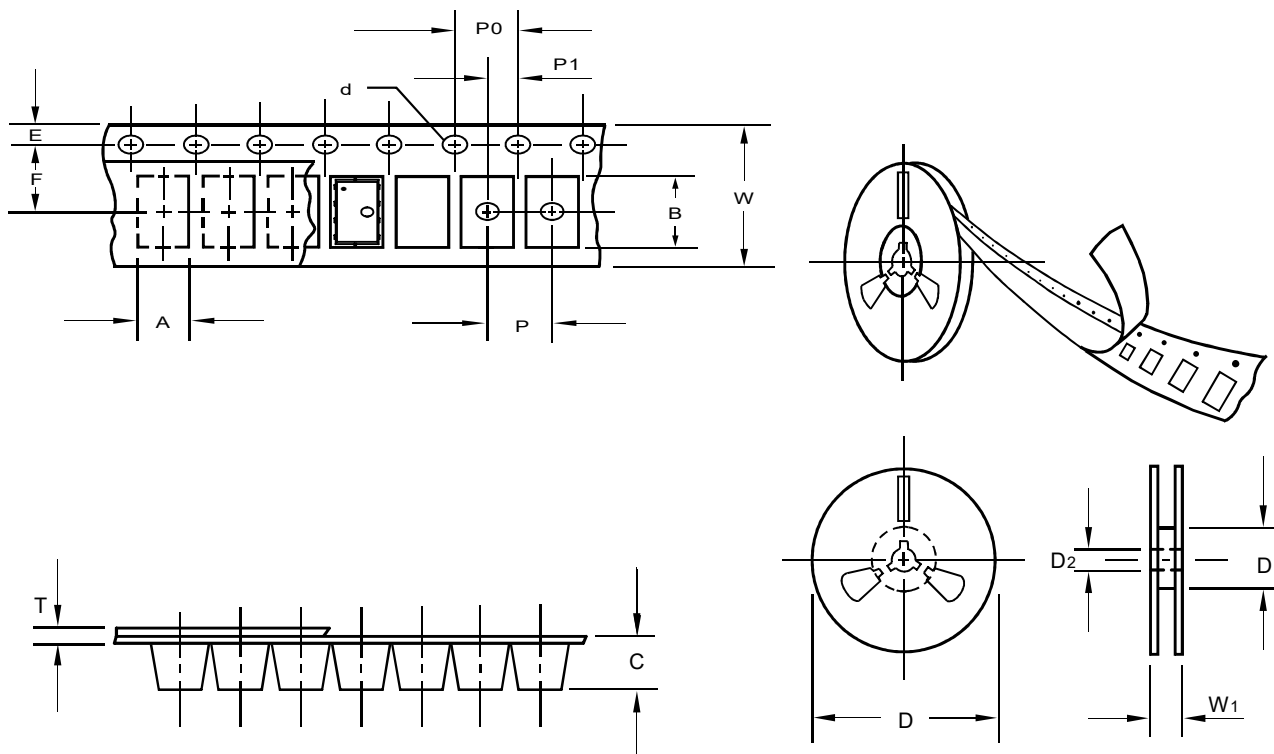
Dimensions in inches and (millimeters)

Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only.

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Packing information



unit:mm

Item	Symbol	Tolerance	T5060P8
Carrier width	A	0.1	6.30
Carrier length	B	0.1	5.30
Carrier depth	C	0.1	1.20
Sprocket hole	d	0.1	1.55
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D ₁	min	100.00
7" Reel outside diameter	D	2.0	-
7" Reel inner diameter	D ₁	min	-
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.50
Punch hole pitch	P	0.1	8.00
Sprocket hole pitch	P ₀	0.1	4.00
Embossment center	P ₁	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	12.00
Reel width	W ₁	1.0	17.80

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

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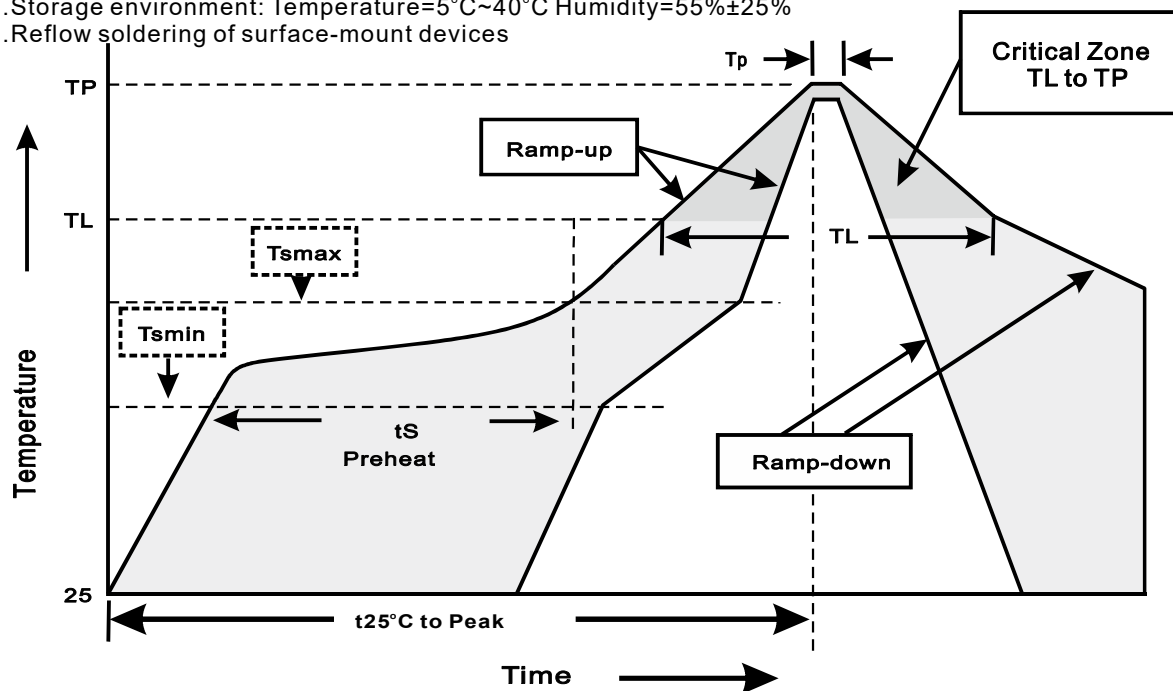
Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	BOX (pcs)	REEL DIA, (mm)	CARTON (pcs)
DFN5060-8 (T5060P8)	7"	5,000	10,000	330	50,000

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(TL to TP)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(TL) -Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<3°C/sec
Time 25°C to Peak Temperature	<6minutes