

FM3060-T5060

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FM3060-T5060

30A Surface Mounted Schottky Barrier Rectifiers 60V

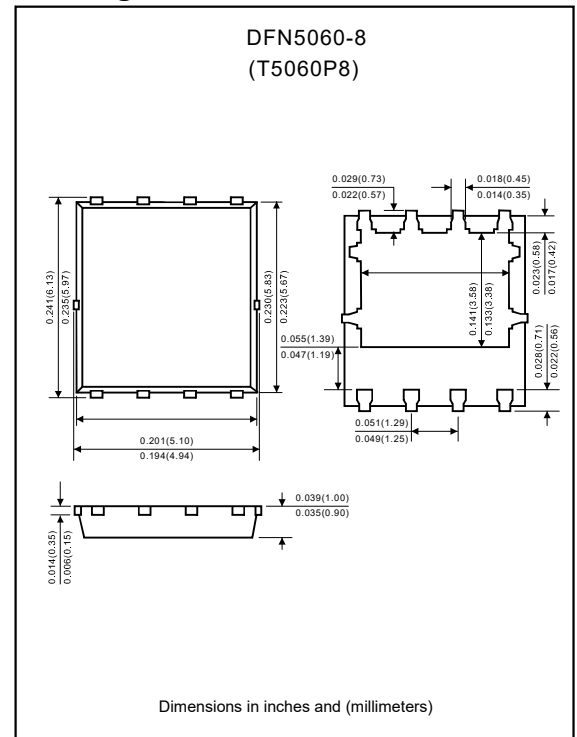
Features

- Very low conduction losses.
- Low forward voltage drop.
- Low thermal resistance.
- High specified avalanche capability.
- Lead free finish, RoHS compliant.
- Suffix "-H" indicates Halogen free parts, ex. FM3060-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}	60	V
Working Peak Reverse Voltage	V_{RWM}	60	V
DC Blocking Voltage	V_R	60	V
Continuous Forward Current	I_F	30	A
Peak Forward Surge Current (8.3ms single half sine-wave)	I_{FSM}	200	A
Operating Junction Temperature	T_J	-55~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~ +150	$^\circ\text{C}$

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

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$I_R=100\mu\text{A}$	V_{BR}	60	-	-	V
Forward Voltage	$I_F=30\text{A}$ ($T_J=25^\circ\text{C}$)	V_F	-	-	0.75	V
	$I_F=30\text{A}$ ($T_J=125^\circ\text{C}$)		-	-	0.68	
Maximum Peak Reverse Current	$V_R = V_{RRM}$ ($T_J=25^\circ\text{C}$)	I_R	-	-	100	μA
	$V_R = V_{RRM}$ ($T_J=125^\circ\text{C}$)		-	-	50	mA

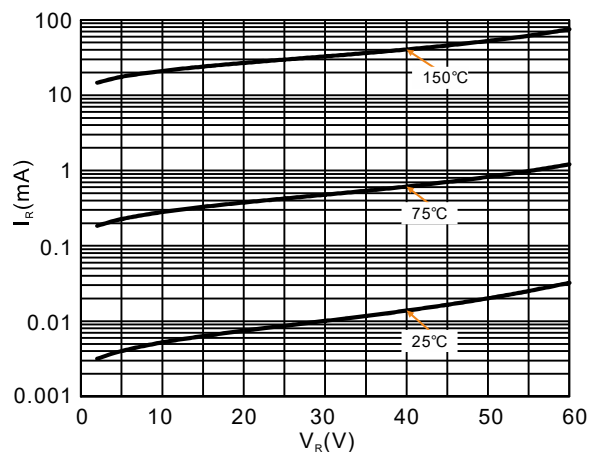
Note :

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

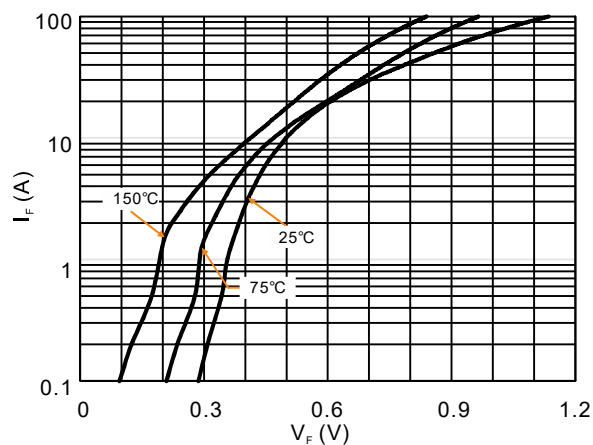
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Rating and characteristics curves (At $T_A = 25^\circ\text{C}$ unless otherwise specified)

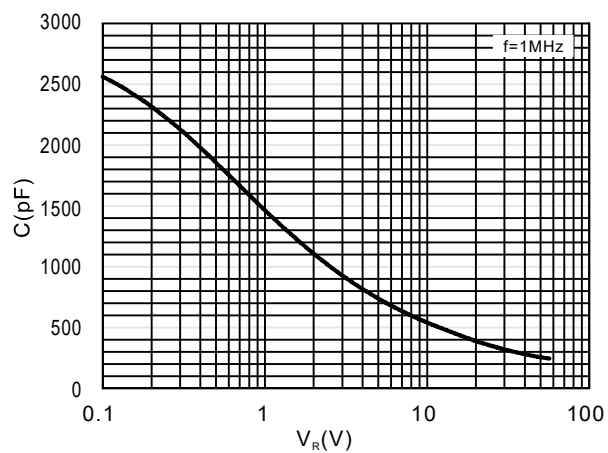
Typical Reverse Characteristic



Typical Forward Characteristic



Capacitance vs. Reverse Voltage



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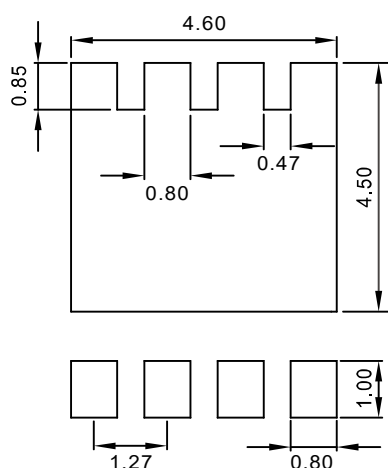
Pinning information

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
FM3060-T5060	3060L

Suggested solder pad layout



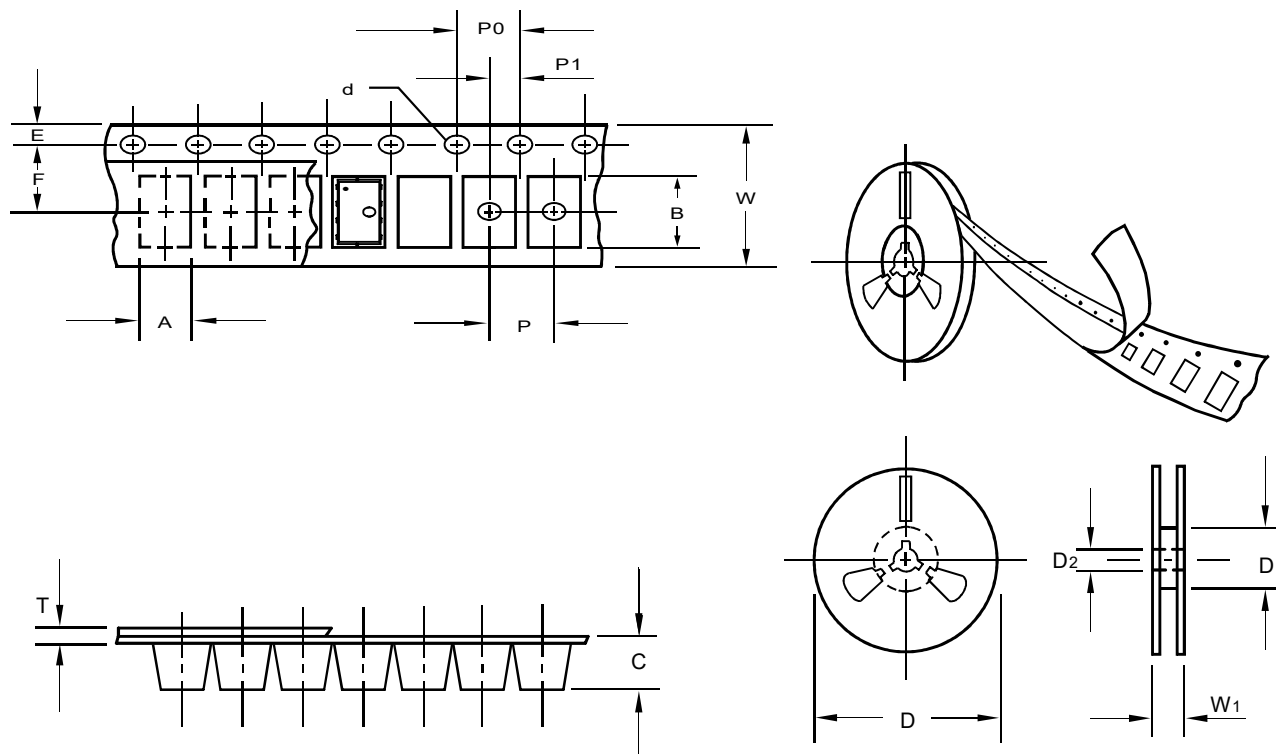
Note:

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

Dimensions in inches and (millimeters)

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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.

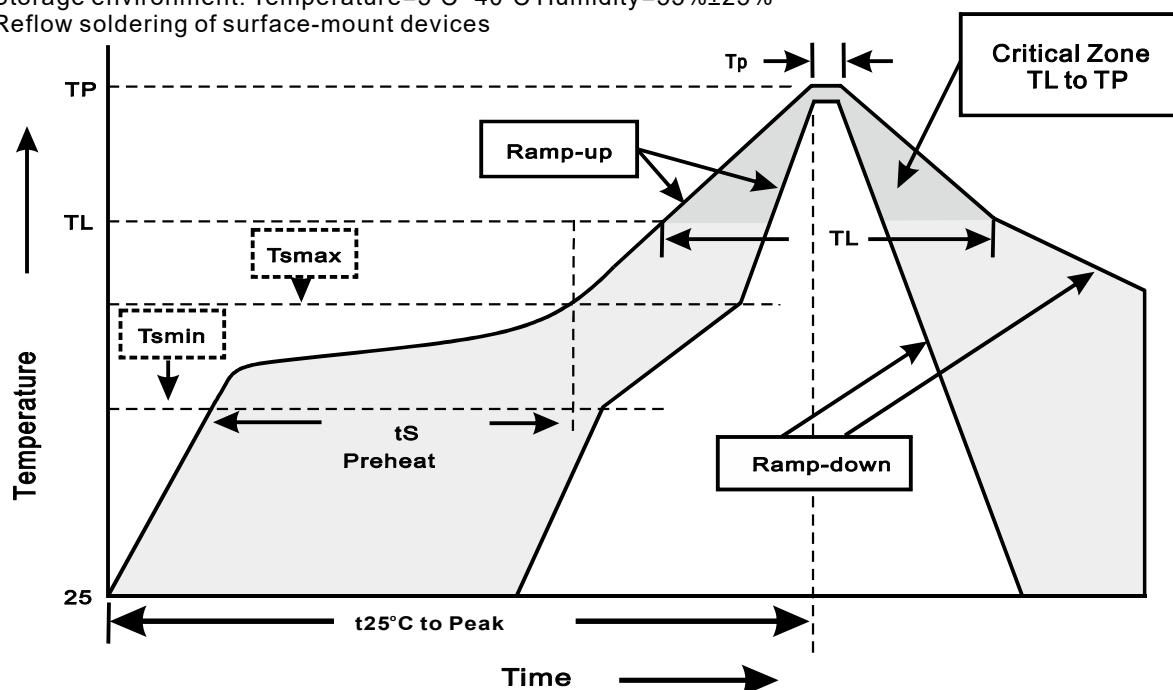
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Reel packing

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