

SKFM2040YW-D-Q1 Thru SKFM20H200YW-D-Q1**List**

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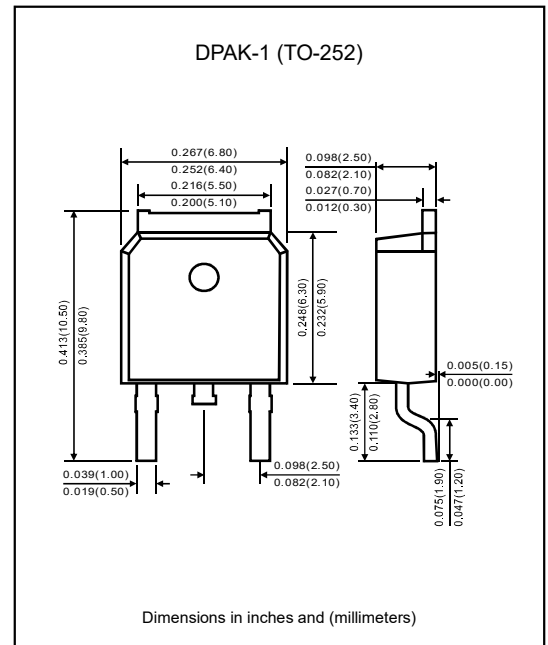
SKFM2040YW-D-Q1 Thru SKFM20H200YW-D-Q1

**20.0A Schottky Barrier
Rectifiers : 40V ~ 200V**
Features

- Construction utilizes void-free molded plastic technique.
- High forward surge current capability.
- High temperature soldering guaranteed 260°C/10 seconds at terminals.
- Low reverse leakage.
- Qualified to AEC-Q101 standards for high reliability.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen free parts, ex. SKFM2040YW-D-Q1-H.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant.
- Case : Molded plastic, TO-252 / DPAK-1.
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026.
- Mounting Position : Any.

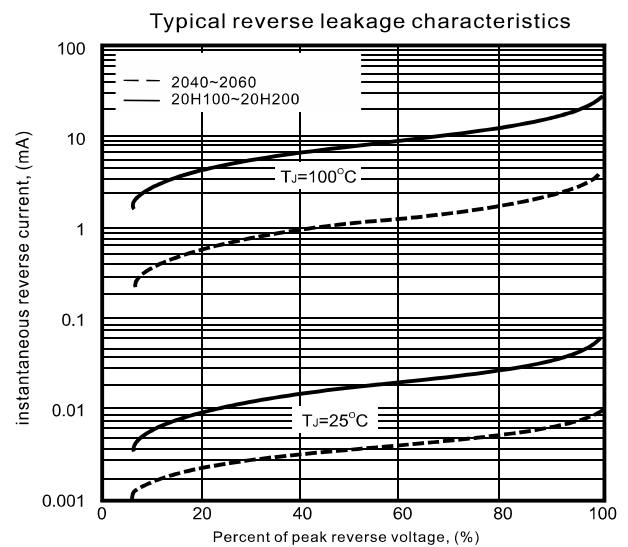
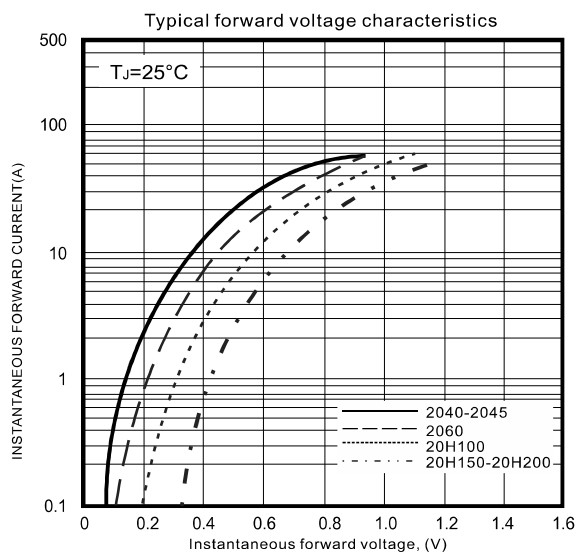
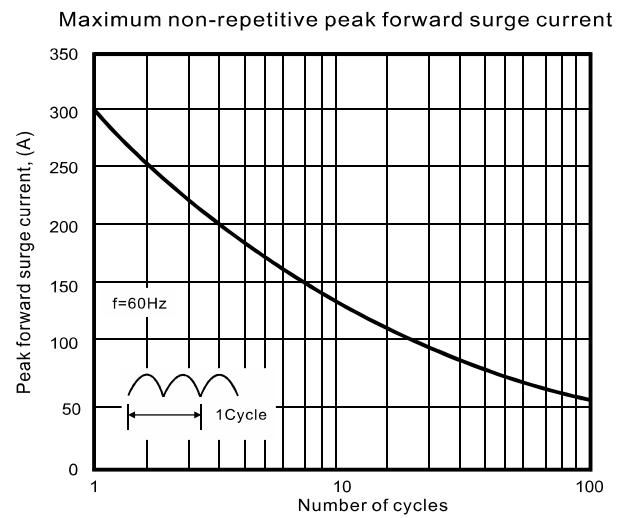
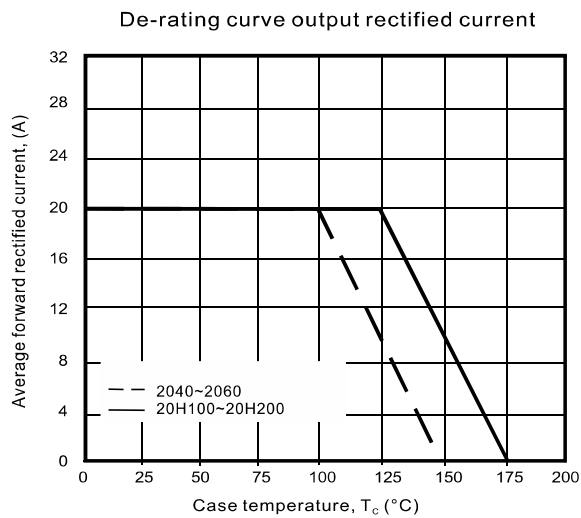
Package outline**Maximum ratings and electrical characteristics** (At TA=25°C, unless otherwise noted.)

Parameter	Symbol	SKFM2040 YW-D-Q1	SKFM2045 YW-D-Q1	SKFM2060 YW-D-Q1	SKFM20H 100YW-D-Q1	SKFM20H 150YW-D-Q1	SKFM20H 200YW-D-Q1	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	40	45	60	100	150	200	V
Maximum RMS voltage	V _{RMS}	28	31.5	42	70	105	140	V
Maximum DC blocking voltage	V _{DC}	40	45	60	100	150	200	V
Maximum average forward rectified current at T _c =110°C	I _(AV)	20						A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	300						A
Maximum instantaneous forward voltage per diode at 20A	V _F	0.55		0.70	0.85	0.95		V
Maximum DC reverse current (T _A =25°C)	I _R	0.5			0.05			mA
at rated DC blocking voltage (T _A =125°C)		50			10			
Typical thermal resistance	R _{θJC}	1.5						°C/W
Operating junction temperature	T _J	+150			+175			°C
Storage temperature range	T _{STG}	-55 to +150						°C

Note : 1.Single phase half-wave 60Hz,resistive or inductive load, for capacitive load current derate by 20%.

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Rating and characteristic curves

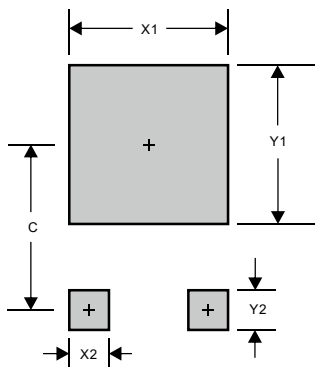


SKFM2040YW-D-Q1 Thru SKFM20H200YW-D-Q1**Pinning information**

Pin	Simplified outline	Symbol
Pin 1, 3 Anode Pin 2, 4 Cathode		

Marking

Type number	Marking code
SKFM2040YW-D-Q1	MBR2040YSV
SKFM2045YW-D-Q1	MBR2045YSV
SKFM2060YW-D-Q1	MBR2060YSV
SKFM20H100YW-D-Q1	MBR20100YSV
SKFM20H150YW-D-Q1	MBR20150YSV
SKFM20H200YW-D-Q1	MBR20200YSV

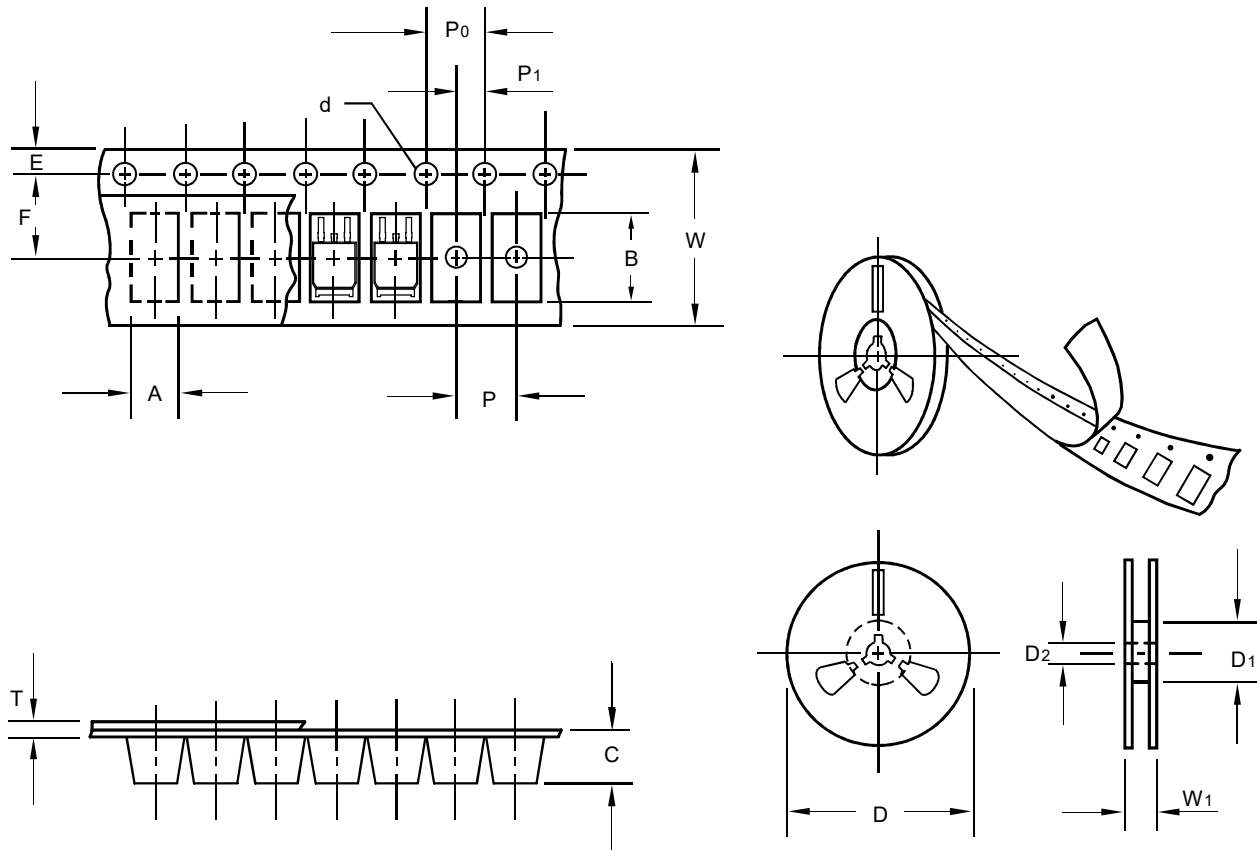
Suggested solder pad layout

Symbol	Dimension
C	0.261(6.64)
X1	0.240(6.10)
X2	0.056(1.42)
Y1	0.298(7.57)
Y2	0.109(2.76)

Dimensions in inches and (millimeters)

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Packing information



unit:mm

Item	Symbol	Tolerance	DPAK-1
Carrier width	A	0.1	6.90
Carrier length	B	0.1	10.50
Carrier depth	C	0.1	2.70
Sprocket hole	d	0.1	1.55
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D ₁	min	50.00
7" Reel outside diameter	D	2.0	-
7" Reel inner diameter	D ₁	min	-
Feed hole diameter	D ₂	0.5	13.50
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	7.50
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	0.30
Tape width	W	3.0	13.30
Reel width	W ₁	5.0	17.00

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

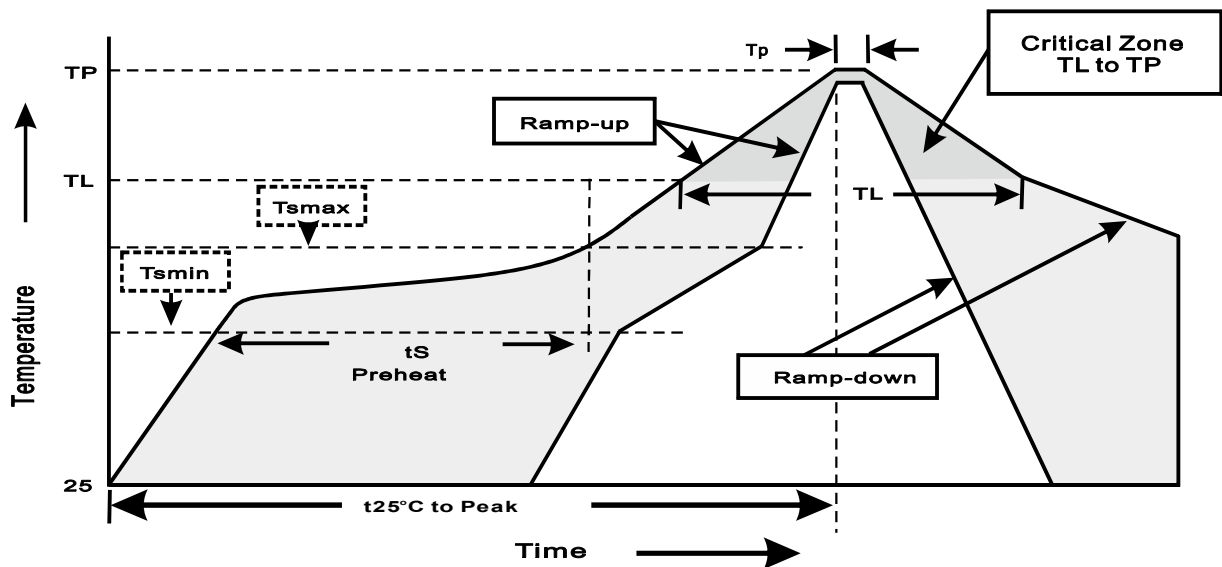
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Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	REEL DIA, (m/m)
DPAK-1/ TO-252	13"	2,500	8.0	5,000	330

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)	$<3^{\circ}\text{C}/\text{sec}$
Preheat -Temperature Min(T_{smin}) -Temperature Max(T_{smax}) -Time(min to max)(t_s)	150°C 200°C 60~120sec
T_{smax} to T_L -Ramp-upRate	$<3^{\circ}\text{C}/\text{sec}$
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	$<3^{\circ}\text{C}/\text{sec}$
Time 25°C to Peak Temperature	<6minutes