

SKFM540YW-D-Q1 Thru SKFM5H200YW-D-Q1

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SKFM540YW-D-Q1 Thru SKFM5H200YW-D-Q1

5.0A Surface Mount

Schottky Barrier Rectifiers : 40V ~ 200V

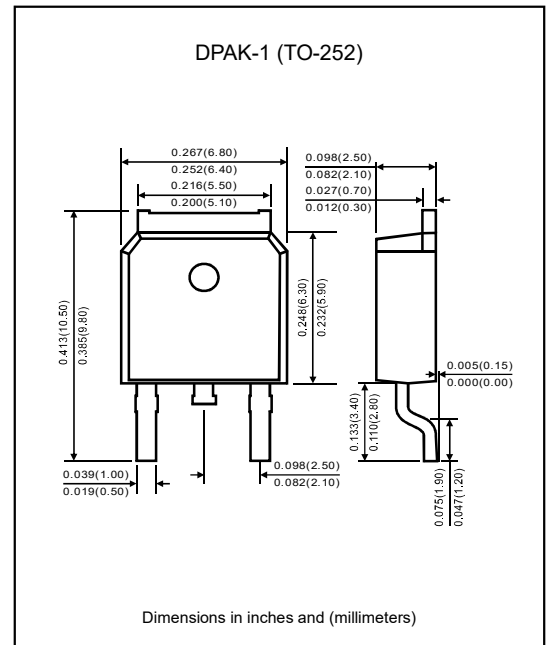
Features

- 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. SKFM540YW-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	SKFM540 YW-D-Q1	SKFM545 YW-D-Q1	SKFM560 YW-D-Q1	SKFM5H100 YW-D-Q1	SKFM5H150 YW-D-Q1	SKFM5H200 YW-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)	5						A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	120						A
Maximum instantaneous forward voltage per diode at 5.0A	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 =100°C)		50			10			
Typical thermal resistance	R _{θJC}	2.5						°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

FIG.1-DERATING CURVE OUTPUT RECTIFIED CURRENT

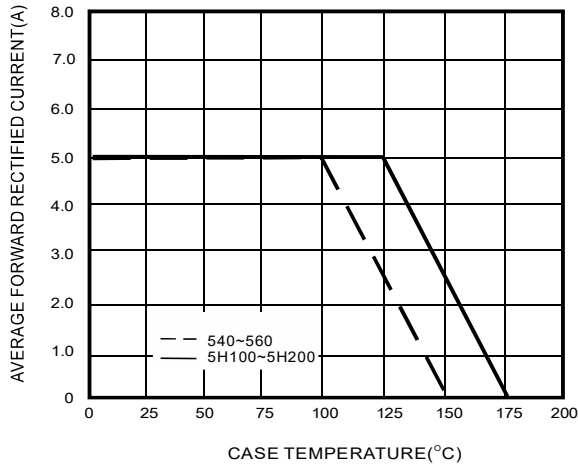


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

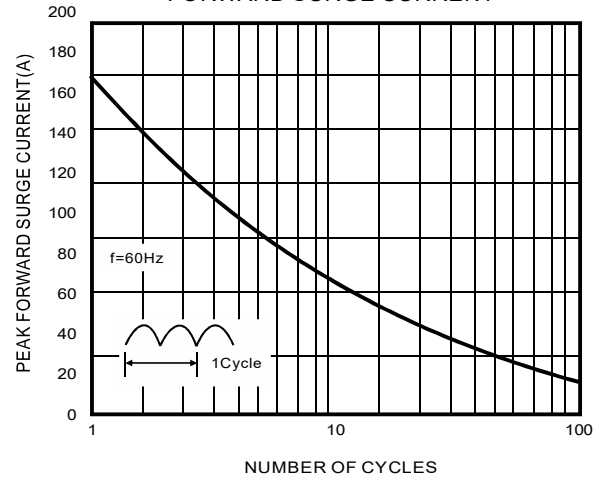


FIG.3-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

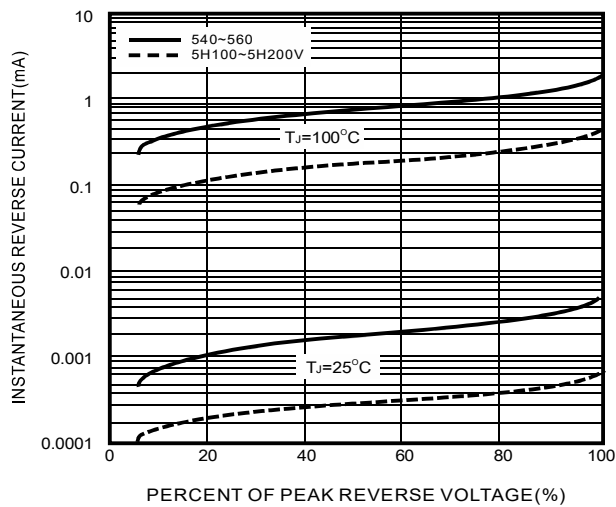
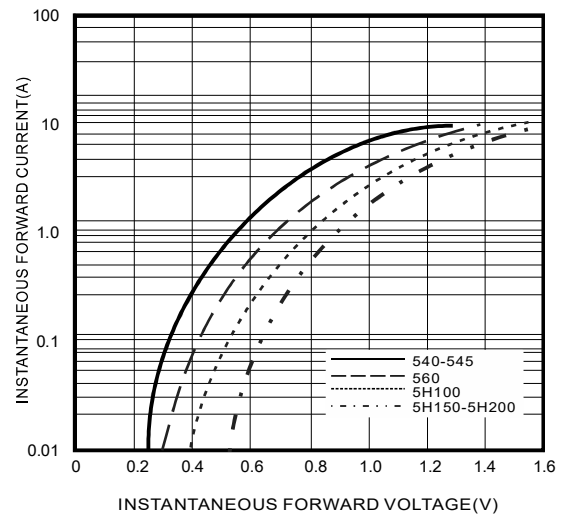
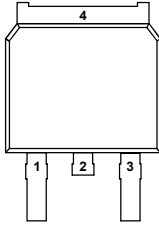
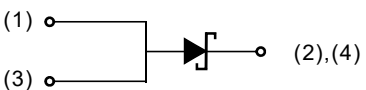


FIG.4-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

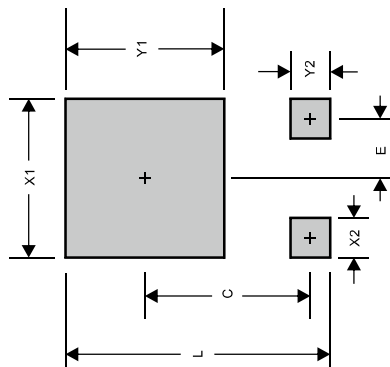


SKFM540YW-D-Q1 Thru SKFM5H200YW-D-Q1**Pinning information**

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

Marking

Type number	Marking code
SKFM540YW-D-Q1	MBR540YSV
SKFM545YW-D-Q1	MBR545YSV
SKFM560YW-D-Q1	MBR560YSV
SKFM5H100YW-D-Q1	MBR5100YSV
SKFM5H150YW-D-Q1	MBR5150YSV
SKFM5H200YW-D-Q1	MBR5200YSV

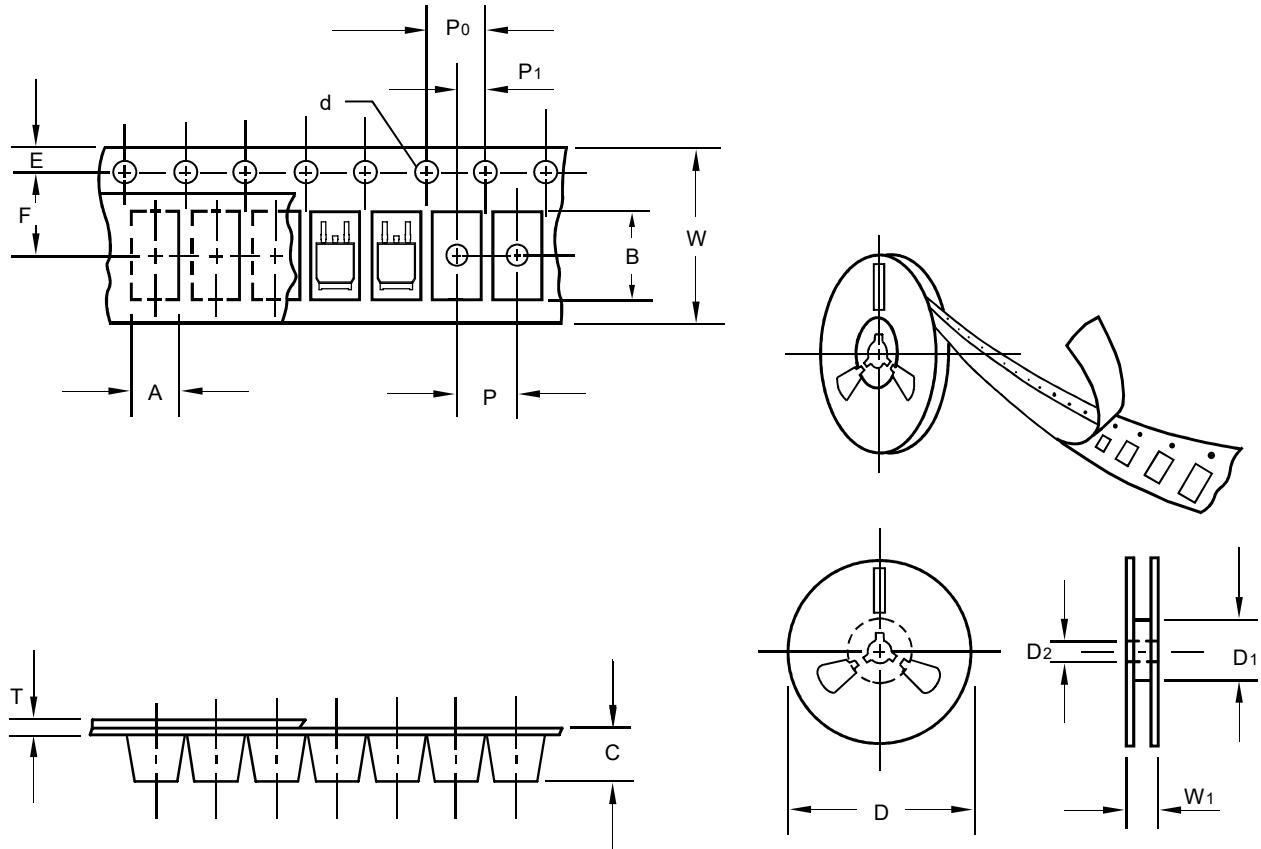
Suggested solder pad layout

PACKAGE	DPAK-1
C	0.261(6.64)
E	0.091(2.30)
L	0.457(11.60)
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	D1	min	50.00
7" Reel outside diameter	D	2.0	-
7" Reel inner diameter	D1	min	-
Feed hole diameter	D2	0.5	13.00
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	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.30
Tape width	W	0.3	16.00
Reel width	W1	1.0	22.00

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

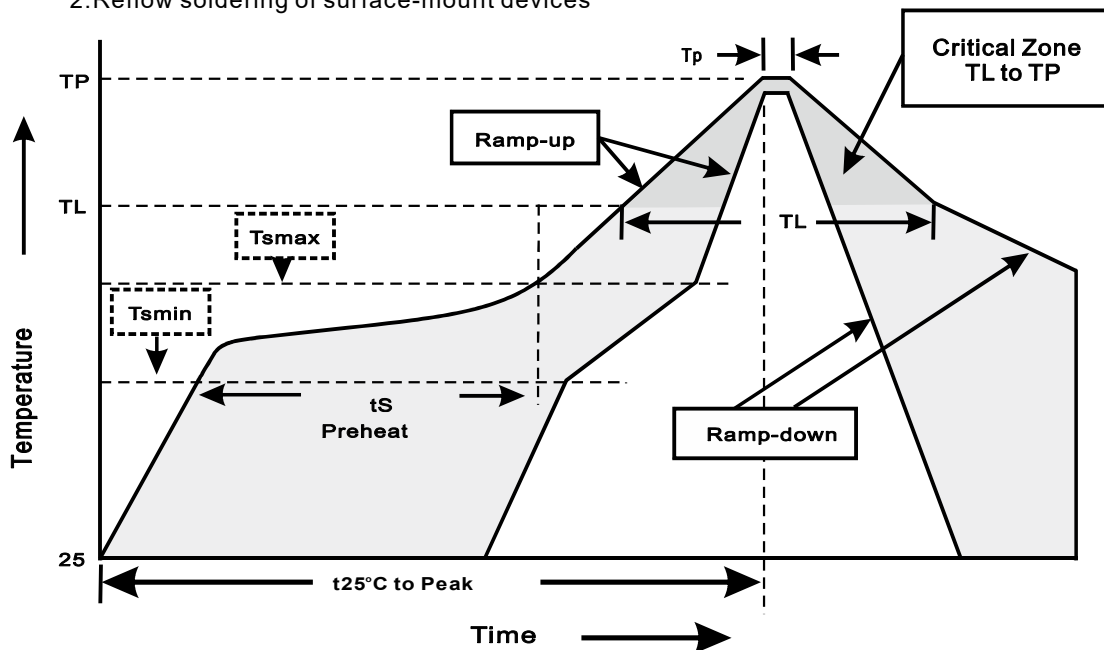
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Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)
DPAK-1/ TO-252	13"	2,500	8.0	5,000	340*340*38	330	360*360*360	40,000

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