SKFM6040CW-D2-H Thru SKFM60200CW-D2-H

List

SKFM6040CW-D2-H Thru SKFM60200CW-D2-H

60.0A Schottky Barrier Rectifiers : 40V ~ 200V

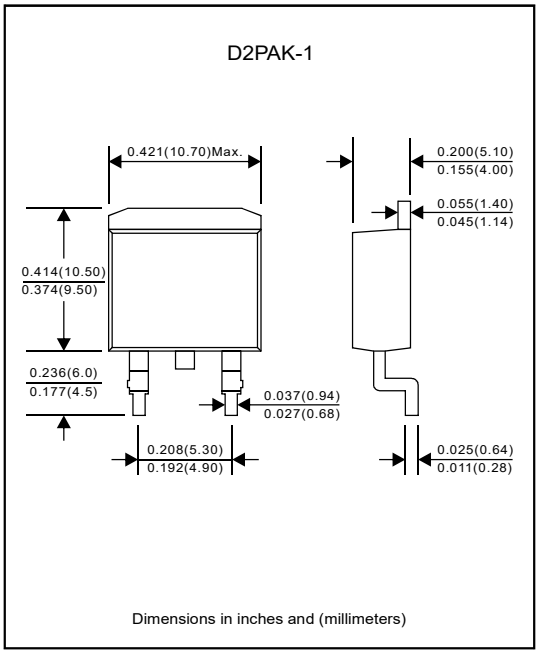
Features

- Construction utilizes void-free molded plastic technique.
- Low reverse leakage.
- High forward surge current capability.
- High temperature soldering guaranteed 260ºC/10s at terminals.
- Lead-free parts meet RoHS requirements.
- Halogen-free (IEC61249-2-21) .

Mechanical data

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, TO-263 / D2PAK-1.
- Terminals : Solder plated, solder able per MIL-STD-750, Method 2026.
- Mounting Position : Any.

Package outline



Maximum Ratings and electrical characteristics (at T_A=25°C unless otherwise noted)

Parameter	Symbol	SKFM6040 CW-D2-H	SKFM6045 CW-D2-H	SKFM6060 CW-D2-H	SKFM60100 CW-D2-H	SKFM60150 CW-D2-H	SKFM60200 CW-D2-H	Unit
Repetitive peak reverse voltage	V_{RRM}	40	45	60	100	150	200	V
RMS voltage	V_{RMS}	28	31.5	42	70	105	140	V
DC blocking voltage	V_{DC}	40	45	60	100	150	200	V
Maximum average forward rectified (Per device)	$I_{(AV)}$	60						A
current at T_C=110ºC (Per diode)		30						
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 30A	V_F	0.65		0.75	0.90	1.0		V
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, junction to case	$R_{\theta JC}$	3.5						ºC/W
Operating junction temperature	T_J	+150						ºC
Storage temperature range	T_{STG}	-55 to +150						ºC

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

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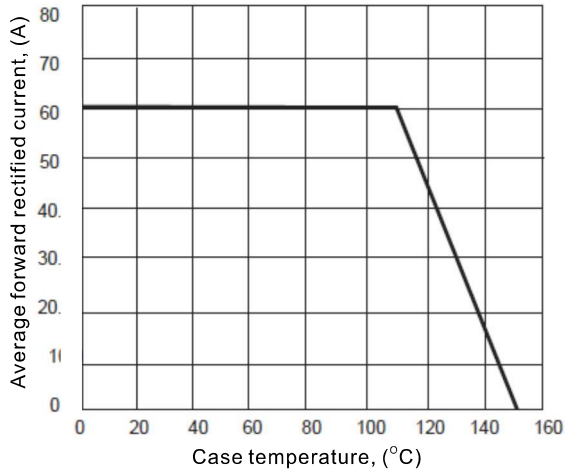
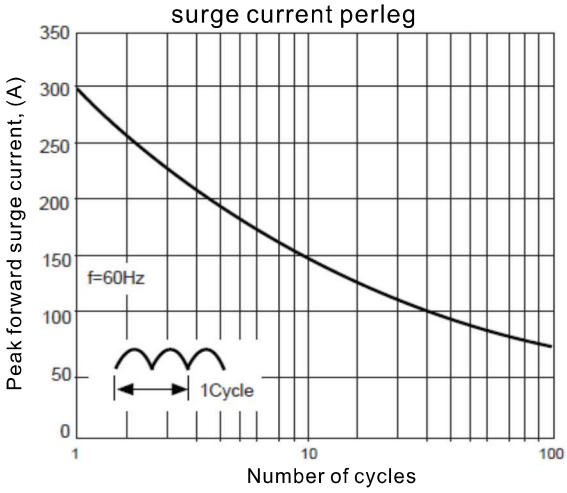
Rating and characteristic curves

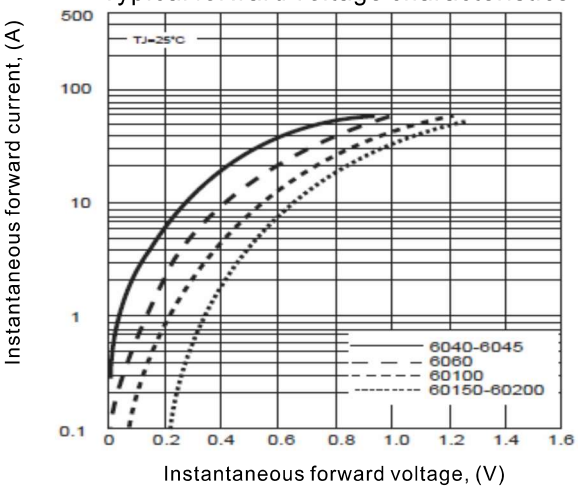
Derating curve output rectified current



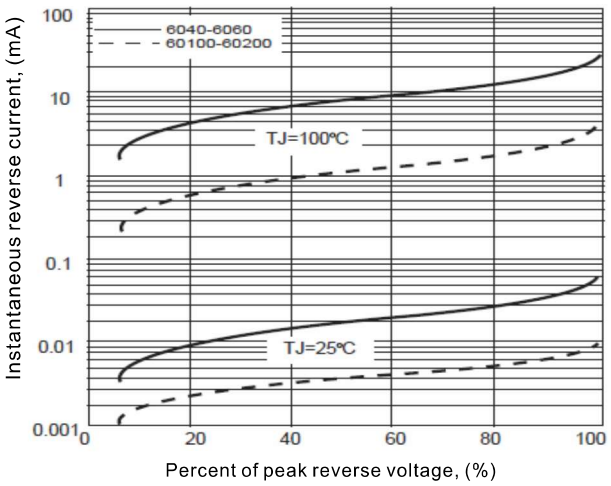
Maximum non-repetitive peak forward surge current perleg



Typical forward voltage characteristics



Typical reverse leakage characteristics



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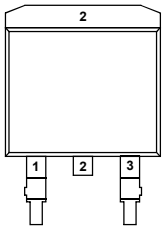
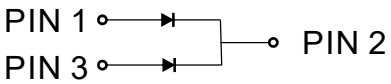
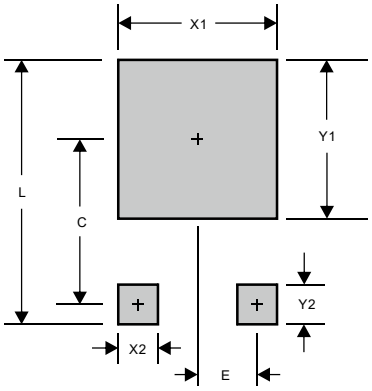
Pinning information

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

Marking

Type number	Marking code
SKFM6040CW-D2-H	MBR6040CT
SKFM6045CW-D2-H	MBR6045CT
SKFM6060CW-D2-H	MBR6060CT
SKFM60100CW-D2-H	MBR60100CT
SKFM60150CW-D2-H	MBR60150CT
SKFM60200CW-D2-H	MBR60200CT

Suggested solder pad layout



PACKAGE	D2PAK-1
C	0.374(9.50)
E	0.098(2.50)
L	0.665(16.90)
X1	0.425(10.80)
X2	0.071(1.80)
Y1	0.449(11.40)
Y2	0.138(3.50)

Dimensions in inches and (millimeters)

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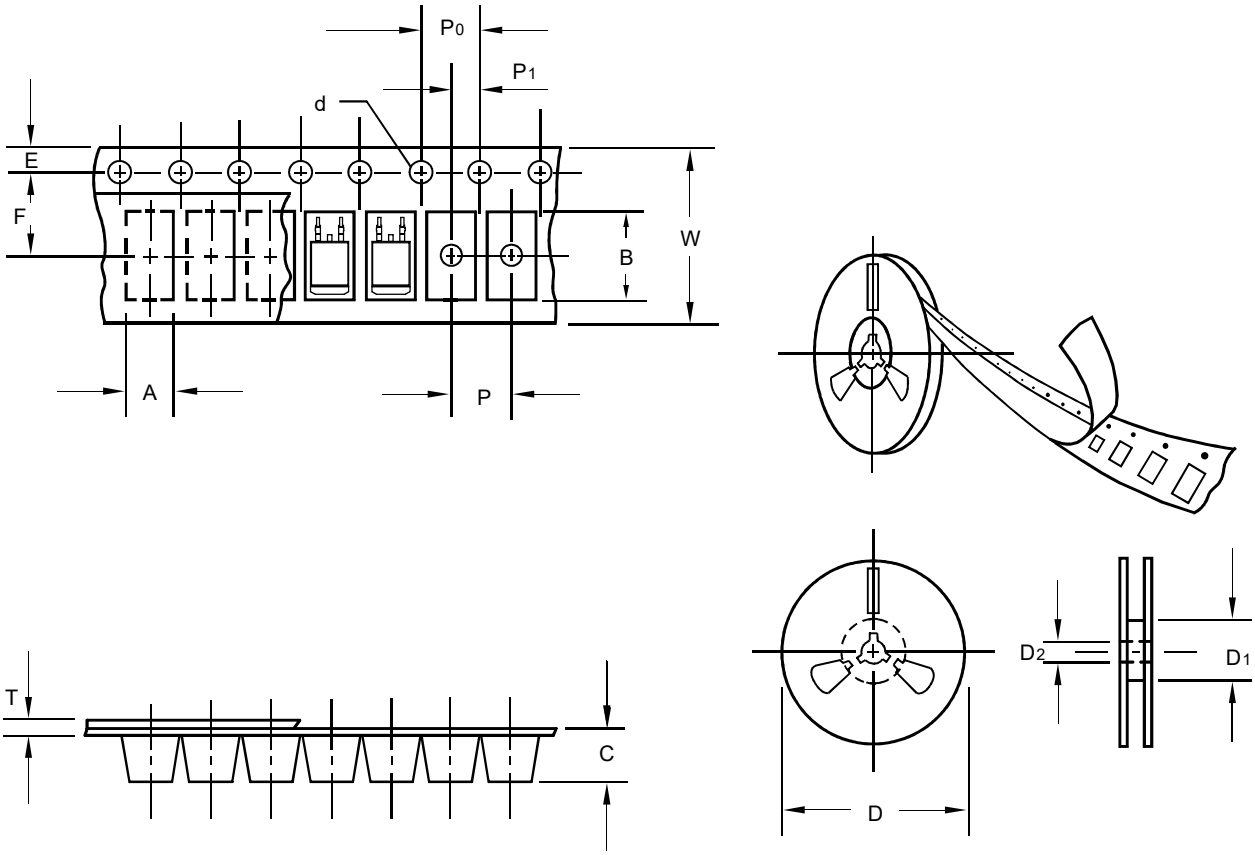
Packing information



unit:mm

Item	Symbol	Tolerance	D2PAK-1
Carrier width	A	0.1	10.50
Carrier length	B	0.1	15.55
Carrier depth	C	0.1	4.90
Sprocket hole	d	0.1	1.50
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	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	11.50
Punch hole pitch	P	0.1	16.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.40
Tape width	W	0.3	24.00

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.

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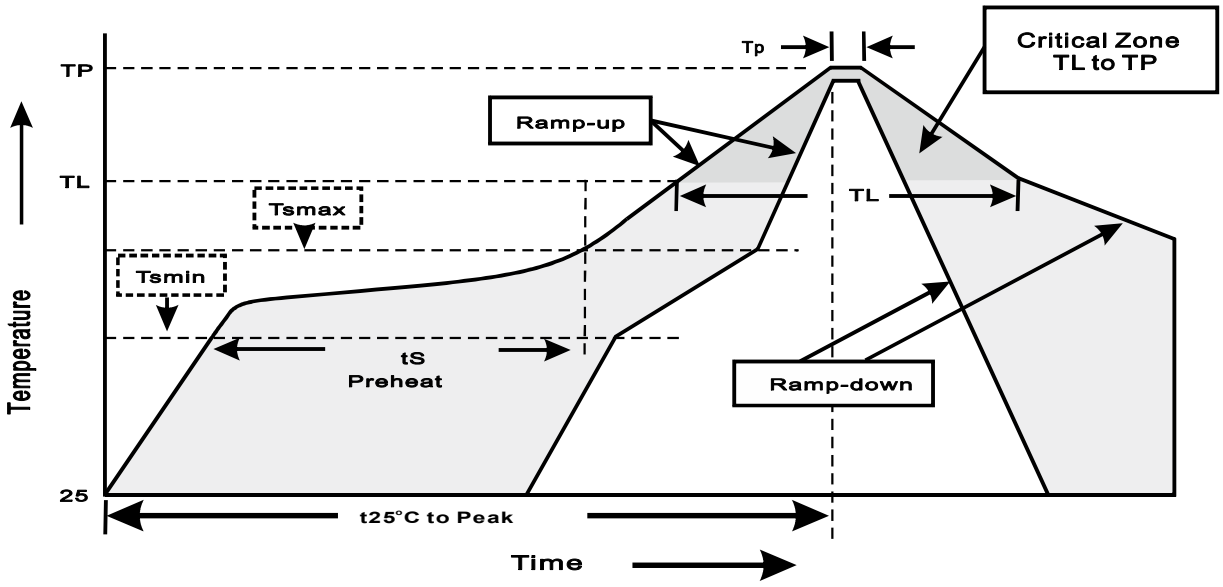
Reel packing

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)
D2PAK-1/ TO-263	13"	800	16.0	800	340*340*38	330	360*360*360	6,400

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(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	 150°C 200°C 60~120sec
Tsmax 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	<3°C/sec
Time 25°C to Peak Temperature	<6minutes