

GPFM1001YC-D Thru GPFM1007YC-D

List

List.....	1
Package outline.....	2
Features.....	2
Mechanical data.....	2
Maximum ratings.....	2
Electrical characteristics.....	3
Rating and characteristic curves.....	3
Pinning information.....	4
Marking.....	4
Suggested solder pad layout.....	4
Package information.....	5
Suggested thermal profiles for soldering processes.....	6

GPFM1001YC-D Thru GPFM1007YC-D

10.0A General Purpose Rectifiers : 50V ~ 1000V

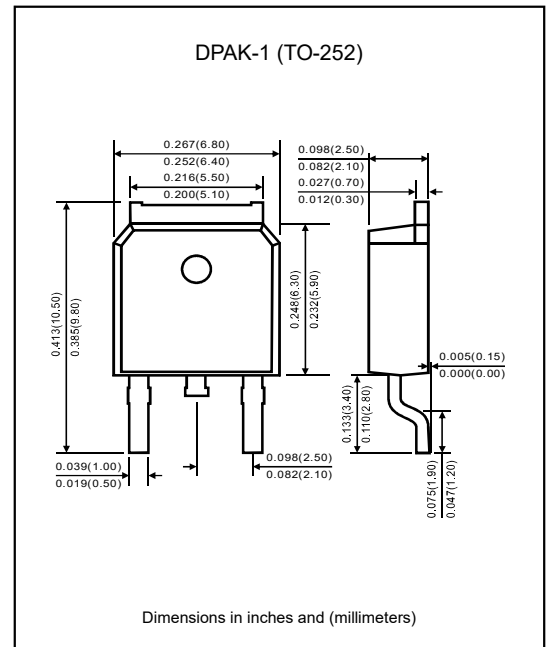
Features

- Low reverse leakage.
- High forward surge current capability.
- High temperature soldering guaranteed 260°C/10 seconds at terminals.
- Construction utilizes void-free molded plastic technique.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex. GPFM1001YC-D-H.

Mechanical data

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

Package outline



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

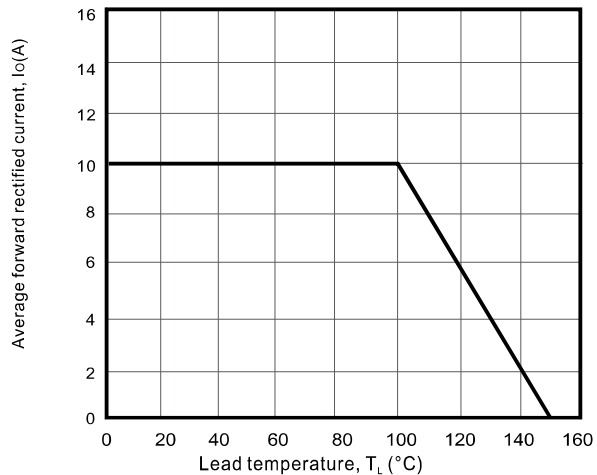
Parameter	Symbol	GPFM 1001YC-D	GPFM 1002YC-D	GPFM 1003YC-D	GPFM 1004YC-D	GPFM 1005YC-D	GPFM 1006YC-D	GPFM 1007YC-D	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L=100^\circ\text{C}$	I_O	10							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	200							A
Maximum instantaneous forward voltage at $I_F=10.0\text{A}$	V_F	1.1							V
Maximum DC reverse current ($T_A=25^\circ\text{C}$) at rated DC blocking voltage ($T_A=125^\circ\text{C}$)	I_R	5.0 500							μA
Typical junction capacitance (Note 1)	C_J	80							pF
Thermal resistance, junction to case	$R_{\theta JC}$	2.5							$^\circ\text{C/W}$
Operating junction temperature	T_J	+150							$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150							$^\circ\text{C}$

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

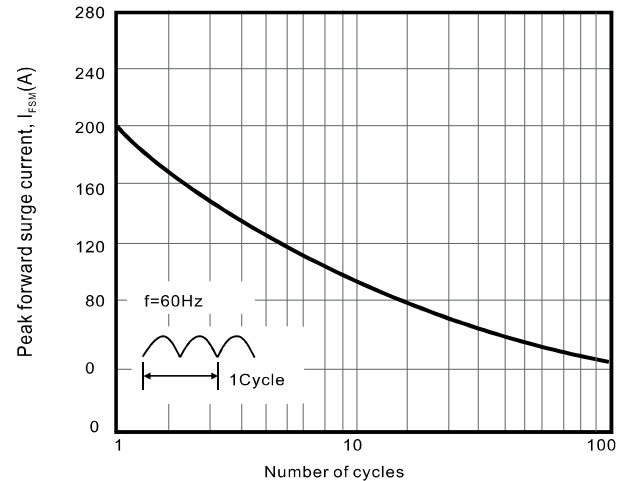
GPFM1001YC-D Thru GPFM1007YC-D

Rating and characteristic curves

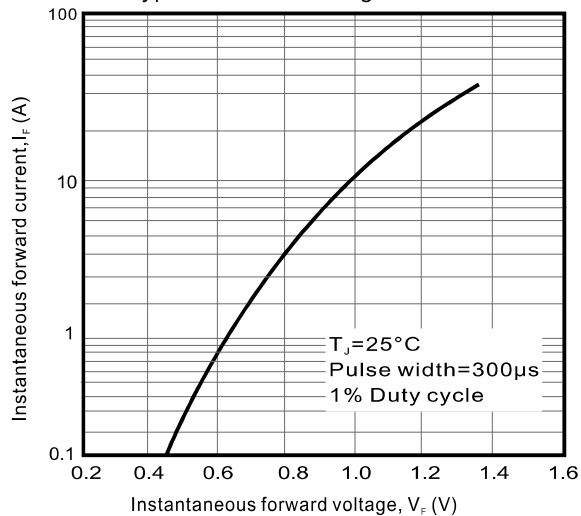
Derating curve output rectified current



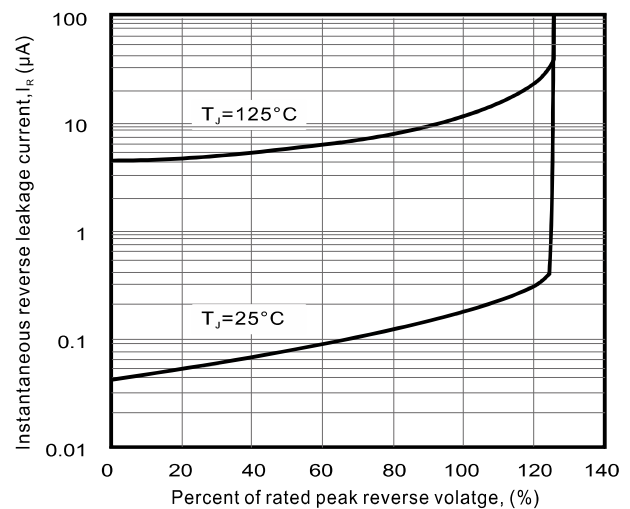
Maximum non-repetitive peak forward surge current per leg



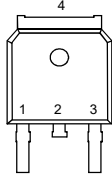
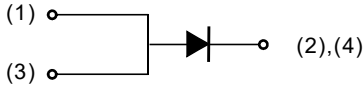
Typical forward voltage characteristics



Typical reverse leakage characteristics

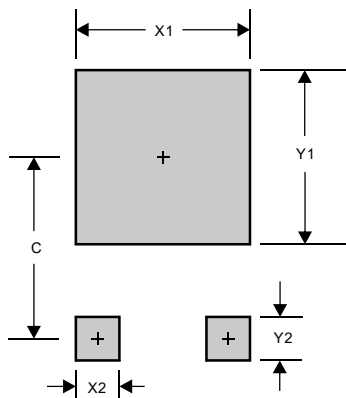


GPFM1001YC-D Thru GPFM1007YC-D**Pinning information**

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

Marking

Type number	Marking code
GPFM1001YC-D	GS1005YS
GPFM1002YC-D	GS1010YS
GPFM1003YC-D	GS1020YS
GPFM1004YC-D	GS1040YS
GPFM1005YC-D	GS1060YS
GPFM1006YC-D	GS1080YS
GPFM1007YC-D	GS10100YS

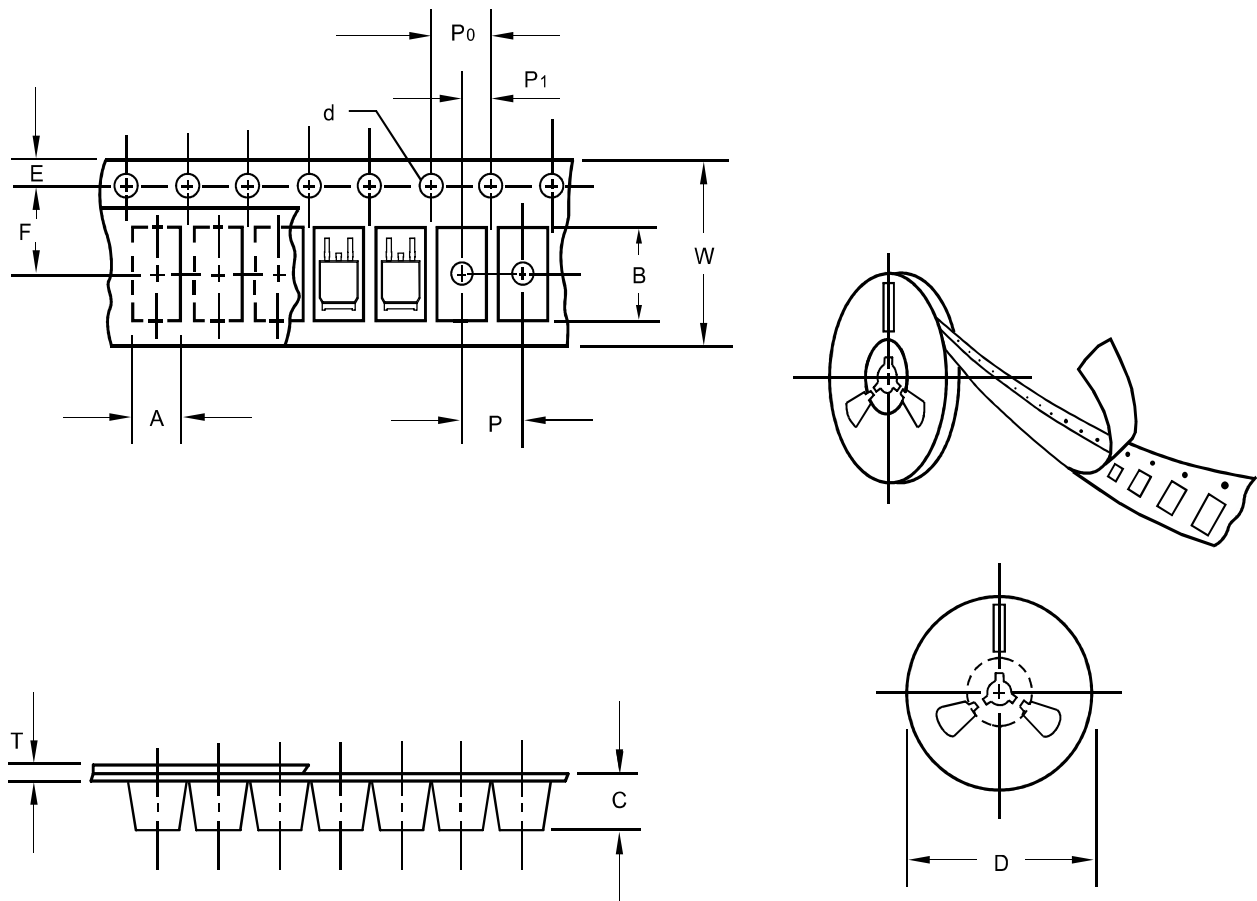
Suggested solder pad layout

PACKAGE	DPAK-1
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)

GPFM1001YC-D Thru GPFM1007YC-D

Packing information



unit:mm

Item	Symbol	Tolerance	DPAK-1 (TO-252)
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
7" Reel outside diameter	D	2.0	-
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	0.3	16.00

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

Formosa MS

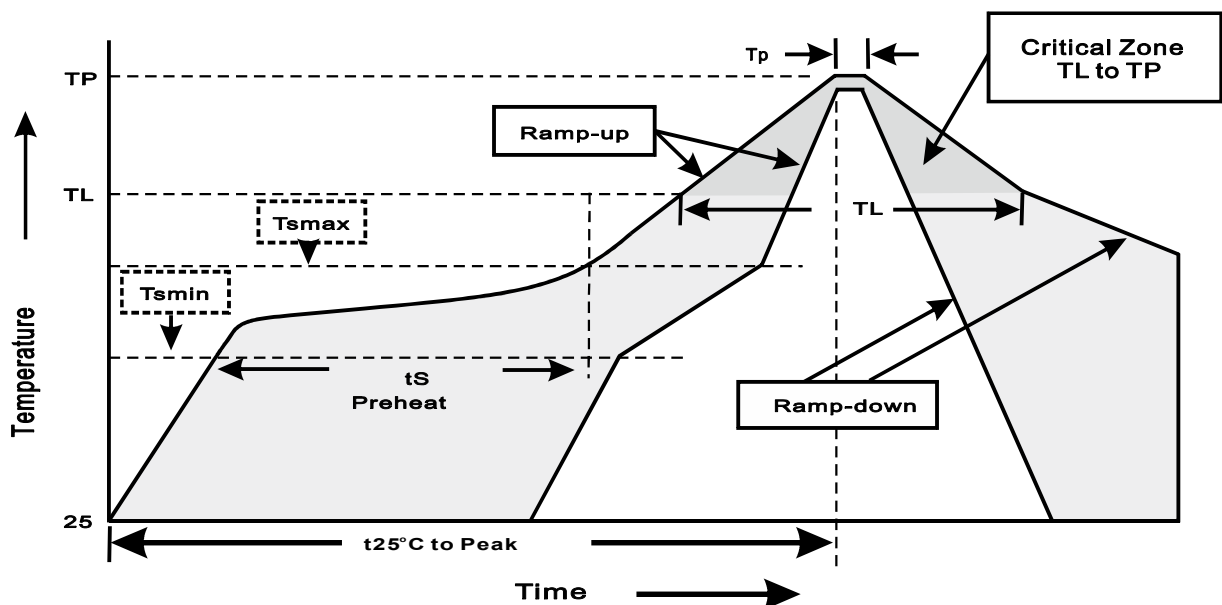
GPFM1001YC-D Thru GPFM1007YC-D

Reel packing

PACKSGE	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	4.0	5,000	335*335*38	330	350*350*225	25,000

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(T _L to T _P)	<3°C/sec
Preheat -Temperature Min(T _{sm}) -Temperature Max(T _{smax}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{smax} 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	<6°C/sec
Time 25°C to Peak Temperature	<6minutes