SMD General Purpose Rectifiers
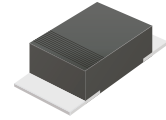
Comchip
SMD Diode Specialist

CGRM4004-HF Thru. CGRM4007-HF

Reverse Voltage: 400 to 1000 Volts

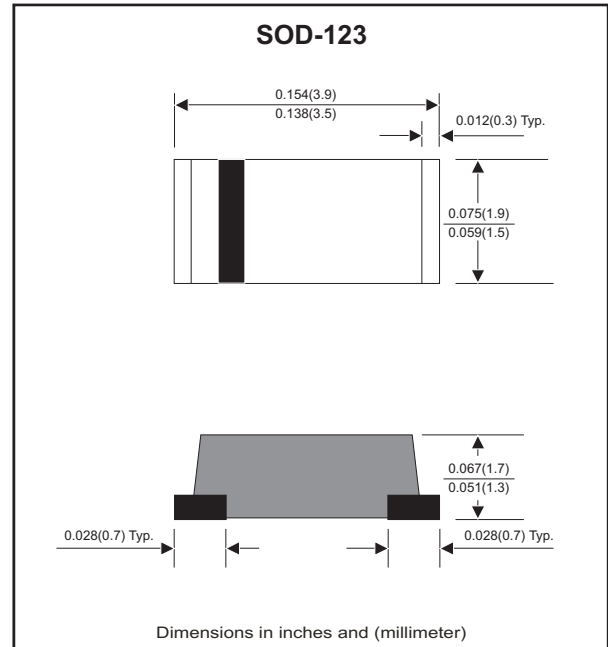## Forward Current: 1.0 Amp

RoHS Device
Halogen Free

Features

-Ideal for surface mount applications.

-Easy pick and place.

-Plastic package has Underwriters Lab.
 flammability classification 94V-0.

-Exceeds environmental standards of
 MIL-STD-19500/228.

-Low leakage current.

Mechanical data

-Case: Molded plastic, JEDEC SOD-123/Mini SMA.

-Terminals: Solderable per MIL-STD-750, method
                      2026.

-Polarity: Indicated by cathode band.

-Weight: 0.018 grams approx.

SOD-123

0.154(3.9)
0.138(3.5)

0.012(0.3) Typ.

0.075(1.9)
0.059(1.5)

0.067(1.7)
0.051(1.3)

0.028(0.7) Typ.

0.028(0.7) Typ.

Dimensions in inches and (millimeter)

Circuit diagram

Maximum Ratings and Electrical Characteristics (at T_A=25°C unless otherwise noted)

Parameter	Symbol	CGRM 4004-HF	CGRM 4005-HF	CGRM 4007-HF	Unit
Max. repetitive peak reverse voltage	V_{RRM}	400	600	1000	V
Max. DC blocking voltage	V_{DC}	400	600	1000	V
Max. RMS voltage	V_{RMS}	280	420	700	V
Max. averaged forward current	I_O	1.0			A
Maximum Instantaneous forward voltage at I_F=1.0A	V_F	1.1	1.0	1.1	V
Forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30			A
Reverse current at rated @T_A=25°C DC blocking voltage @T_A=125°C	I_R	5 50			μA
Thermal resistance, junction to ambient air	$R_{\theta JA}$	60			°C/W
Operating junction temperature	T_J	–55 to +150			°C
Storage temperature range	T_{STG}	–65 to +175			°C
Junction capacitance f=1MHz and applied 4V DC reverse voltage	C_J	15			pF

Company reserves the right to improve product design , functions and reliability without notice.

REV:D

Rating and Characteristic Curves (CGRM4004-HF Thru. CGRM4007-HF)

Fig.1- Reverse Characteristics

$T_J=125\ ^{\circ}C$

$T_J=25\ ^{\circ}C$
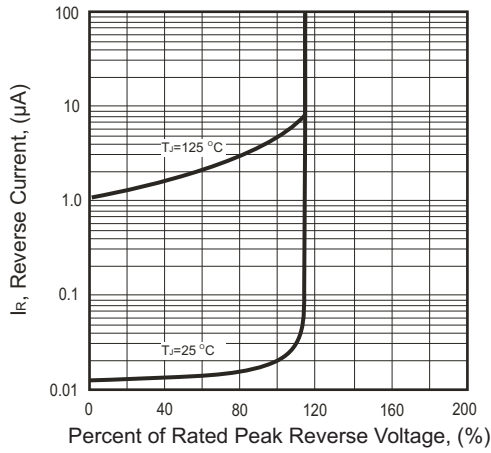
Fig.2- Forward Characteristics

$T_J=25\ ^{\circ}C$
Pulse width=300μs
1% duty cycle

Fig.3 Junction Capacitance
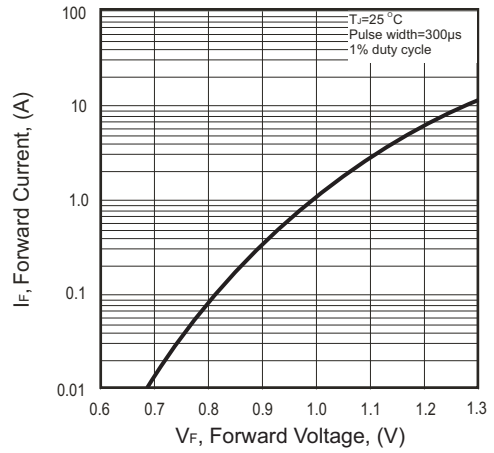
f=1MHz
Applied 4VDC
reverse voltage
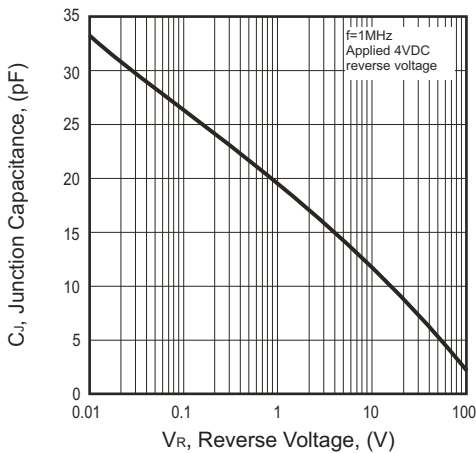
Fig.4 Current Derating Curve

Single phase, half
wave, 60Hz, resistive
or inductive load
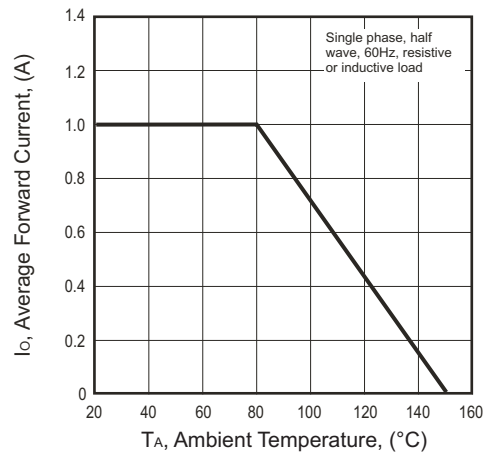
Fig.5 Non-repetitive Forward
Surge Current

$T_J=25\ ^{\circ}C$
8.3ms single half sine
wave, JEDEC method

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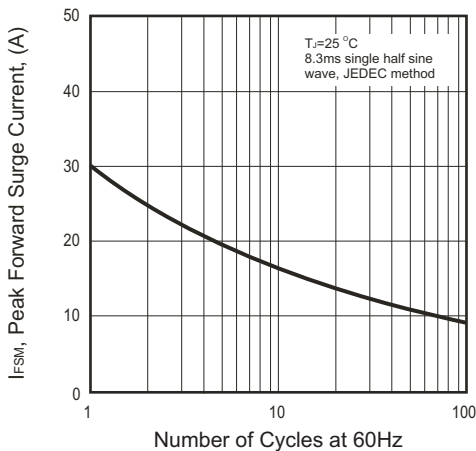
Reel Taping Specification (7″ Reel)
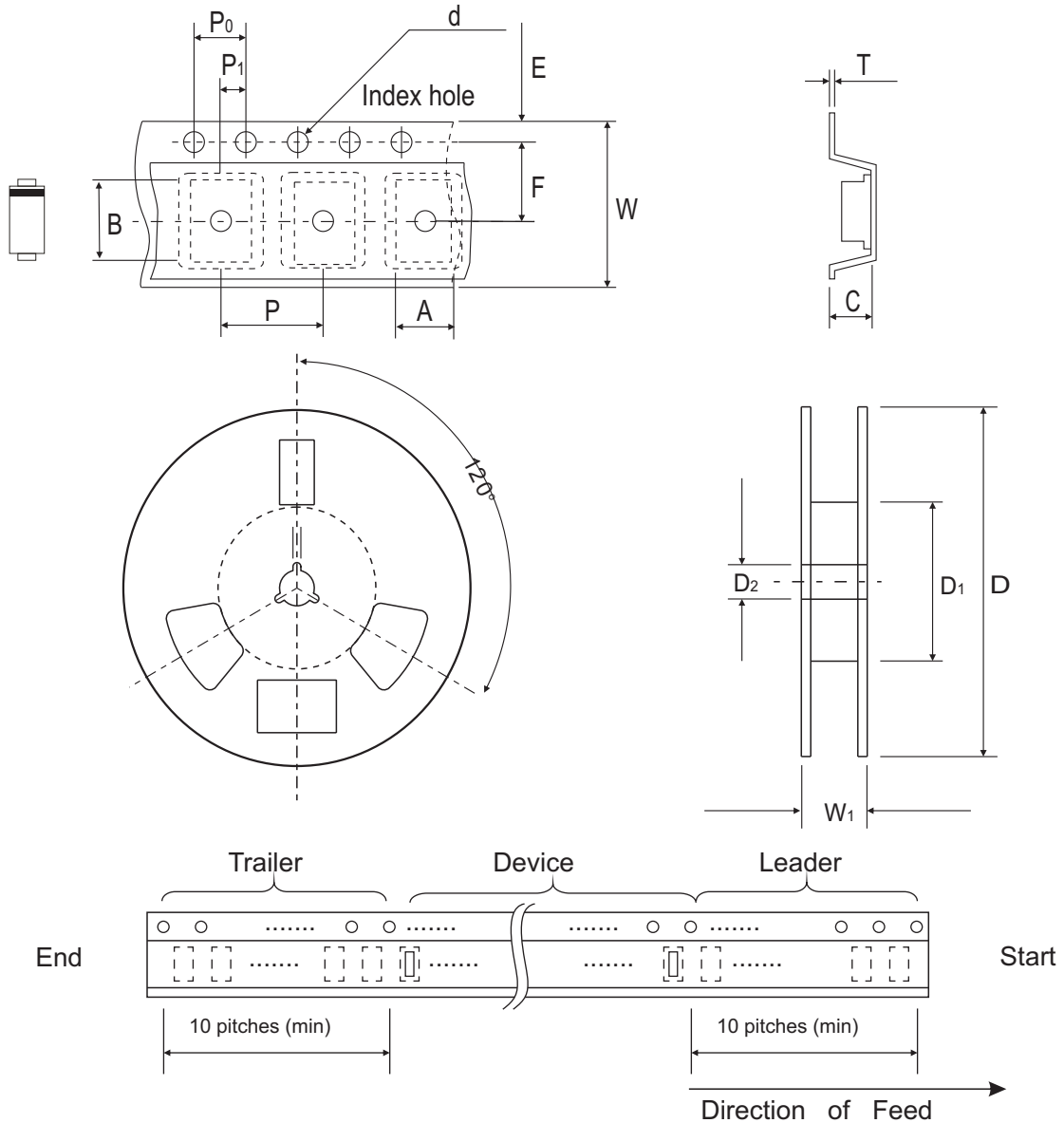
	SYMBOL	A	B	C	d	D	D1	D2
Mini-SMA/SOD-123	(mm)	1.90 ± 0.10	3.90 ± 0.10	1.68 ± 0.10	1.50 ± 0.10	178 ± 2.00	62.0 MIN.	13.0 ± 0.50
	(inch)	0.075 ± 0.04	0.153 ± 0.04	0.066 ± 0.04	0.059 ± 0.004	7.00 ± 0.079	2.440 MIN.	0.512 ± 0.020

	SYMBOL	E	F	P	P0	P1	T	W	W1
Mini-SMA/SOD-123	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.23 ± 0.10	8.00 ± 0.30	11.4 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.004	0.315 ± 0.012	0.449 ± 0.040

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Reel Taping Specification (13" Reel)
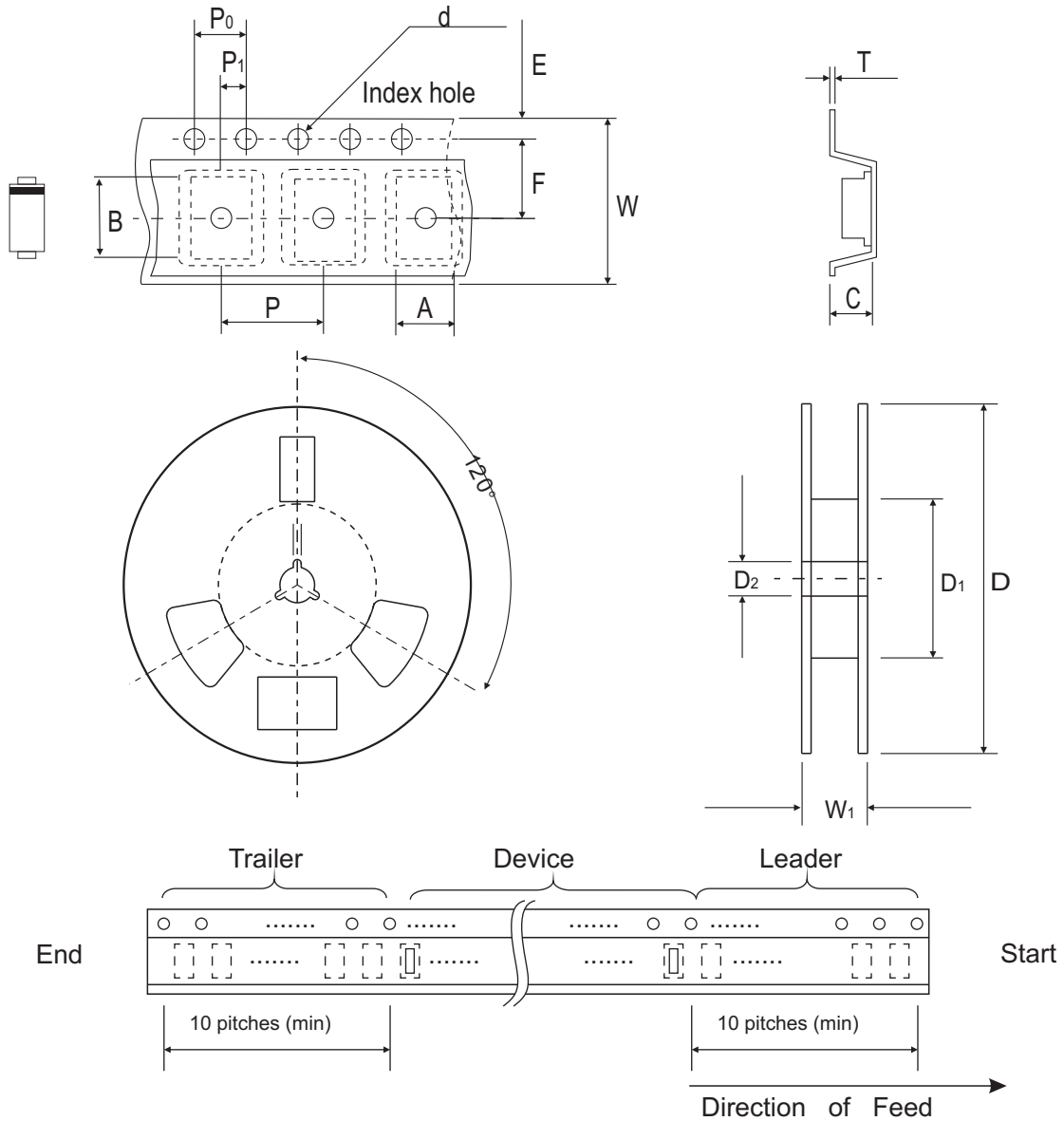
	SYMBOL	A	B	C	d	D	D1	D2
Mini-SMA/SOD-123	(mm)	1.90 ± 0.10	3.90 ± 0.10	1.68 ± 0.10	1.50 ± 0.10	330 ± 2.00	62.0 MIN.	13.0 ± 0.50
	(inch)	0.075 ± 04	0.153 ± 04	0.066 ± 04	0.059 ± 0.004	12.99 ± 0.079	2.440 MIN.	0.512 ± 0.020

|	SYMBOL	E	F	P	P0	P1	T	W	W1
Mini-SMA/SOD-123	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.23 ± 0.10	8.00 ± 0.30	11.4 ± 1.0
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.004	0.315 ± 0.012	0.449 ± 0.040

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REV:D

SMD General Purpose Rectifiers

Marking Code

Part Number	Marking Code
CGRM4004-HF	A4
CGRM4005-HF	A5
CGRM4007-HF	A7

XX

xx = Product type marking code

Suggested PAD Layout

SIZE	Mini-SMA/SOD-123	
	(mm)	(inch)
A	3.30	0.130
B	1.40	0.055
C	1.90	0.075
D	4.70	0.185
E	1.90	0.075
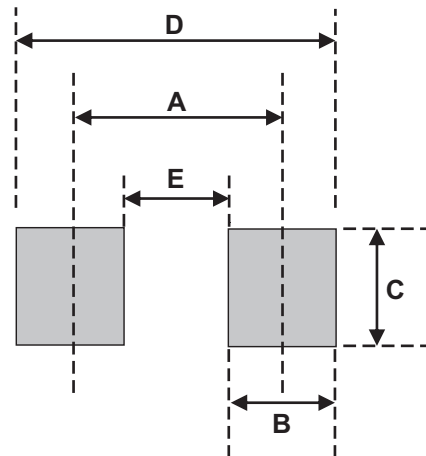
Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
Mini-SMA/SOD-123	2,500	7
	10,000	13

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