Type 3AB/3ABP

Fast Blow Fuse Series

HF Pb 3AB/3ABP Series, 6x32mm Ceramic Tube Fast Blow Fuse **RoHS 6 Compliant**

Description

6x32mm Fast Blow, Ceramic tube body cartridge fuse designed, approved and complied with UL and CSA standard 248-14.

Features

- Meet UL and CSA standard 248-14
- Wide operating temperature range
- Bulk and Tape & Reel packing available
- RoHS 6 compliant
- Halogen Free
- Leadfree

Applications

Provide individual protection for components or internal circuits.
- Power supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE = Pb
HALOGEN FREE = HF

Physical Specifications

Materials	Body : Ceramic
	Cap : Nickel Plated Brass Caps
	Leads : Matte Tin Plated Copper
Marking	On Fuse :
	"bel", "3AB", "Current Rating", "Voltage Rating",
	"Appropriate Safety Logos"," ✔ "(RoHS 6 compliant)
	On Label :
	"bel","3AB"or"3ABP","Current Rating","Voltage Rating","Interrupting Rating", " Appropriate Safety Logos" and " ", " e "(China RoHS compliant).

Electrical Characteristics (UL / CSA STD.248-14)

Testing Current	Blow Time		Amp Range
	Minimum	Maximum	
100%	4 hrs.	N/A	100mA - 20A
135%	N/A	1 Hr	100mA - 10A
200%	N/A	5 sec	100mA - 10A
	N/A	120 sec	12A - 20A

Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE NUMBER	VOLTAGE RATING (V)	AMPERE RANGE / VOLT @ I.R. ABILITY*
c UL us	E20624	100mA - 20A / 250V AC	100mA - 1A / 250V AC@ 35A >1A - 3.5A / 250V AC@ 100A >3.5A - 10A / 250V AC@ 200A 100mA - 10A / 125V AC@ 10,000A
CSA	LR39772		
c UL us	E20624		>10A - 15A / 250V AC@ 750A >15A - 20A / 250V AC@ 1,500A >10A - 20A /125V AC@10,000A
PS E	JET1037-31003-1010 JET1037-31003-1011		1A - 5A / 125V AC @ 500A
	JET1037-31003-1007		>5A - 15A / 125V AC@ 300A
* I.R. = INTERRUPTING RATING = SHORT CIRCUIT RATING (AMPS)			

Specifications subject to change without notice

bel POWER SOLUTIONS & PROTECTION
a bel group

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Environmental Specifications

Shock Resistance	MIL-STD-202G, Method 213B, Test Condition 1 (100 G's peak for 6 milliseconds; Sawtooth waveform)
Vibration Resistance	MIL-STD-202G, Method 201A(10-55 Hz, 0.06 inch, total excursion).
Salt Spray Resistance	MIL-STD-202G, Method 101E, Test Condition B(48 hrs).
Insulation Resistance	MIL-STD-202G, Method 302, Test Condition A (After Opening) 10, 000 ohms minimum.
Solderability	MIL-STD-202G, Method 208H
Resistance to solder Heat	MIL-STD-202G, Method 210F, Test Condition B.(260+/-5 °C,10+/-1 sec)
Thermal Shock	MIL-STD-202G, Method 107G, Test Condition B (-65 °C to +125 °C).
Operating Temperature	-55 °C to +125 °C
Terminal Strength	IEC-68-2-21

Electrical Specifications

Catalog Number	Ampere Rating	Typical Cold Resistance (ohm)	Volt-drop @100% In (Volt) max.	Voltage and Interrupting Ratings	Melting I^2T <10 mSec (A^2 Sec)	Melting I^2T @10 In (A^2 Sec)	Maximum Power Dissipation (W)	Agency Approvals		
								c UL us	SP	PS E
3AB (P) 100-R	100mA	11.3	4.62	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	0.002	0.002	0.59	Y	Y	
3AB (P) 125-R	125mA	10.5	5.18		0.004	0.003	0.74	Y	Y	
3AB (P) 160-R	160mA	7.26	4.85		0.008	0.005	0.87	Y	Y	
3AB (P) 200-R	200mA	5.00	4.38		0.014	0.010	1.02	Y	Y	
3AB (P) 250-R	250mA	3.42	4.05		0.025	0.017	1.19	Y	Y	
3AB (P) 300-R	300mA	2.52	3.54		0.044	0.032	1.40	Y	Y	
3AB (P) 375-R	375mA	1.86	3.35		0.071	0.050	1.58	Y	Y	
3AB (P) 500-R	500mA	0.74	1.50		0.14	0.10	1.92	Y	Y	
3AB (P) 750-R	750mA	0.257	0.36		0.75	0.74	0.30	Y	Y	
3AB (P) 1-R	1A	0.155	0.28		1.4	1.4	0.37	Y	Y	Y
3AB (P) 1.25-R	1.25A	0.114	0.27		2.5	2.5	0.44	Y	Y	Y
3AB (P) 1.5-R	1.5A	0.089	0.27		3.80	3.95	0.49	Y	Y	Y
3AB (P) 1.6-R	1.6A	0.085	0.27		4.2	4.4	0.51	Y	Y	Y
3AB (P) 2-R	2A	0.057	0.22		7.2	7.6	0.59	Y	Y	Y
3AB (P) 2.5-R	2.5A	0.043	0.21		12	13	0.70	Y	Y	Y
3AB (P) 3-R	3A	0.033	0.17		21	23	0.83	Y	Y	Y
3AB (P) 3.5-R	3.5A	0.027	0.18		28	31	0.91	Y	Y	Y
3AB (P) 4-R	4A	0.024	0.17		36	40	1.00	Y	Y	Y
3AB (P) 5-R	5A	0.018	0.16		63	70	1.20	Y	Y	Y
3AB (P) 6-R	6A	0.014	0.15		107	123	1.40	Y	Y	Y
3AB (P) 7-R	7A	0.012	0.16		141	162	1.60	Y	Y	Y
3AB (P) 8-R	8A	0.010	0.15		184	214	1.70	Y	Y	Y
3AB (P) 10-R	10A	0.008	0.13		316	372	2.00	Y	Y	Y
3AB (P) 12-R	12A	0.009	0.19		501	597	2.30	Y		Y
3AB (P) 15-R	15A	0.007	0.17		845	1023	2.70	Y		Y
3AB (P) 20-R	20A	0.004	0.15		1598	1968	3.00	Y		

Consult manufacturer for other ratings

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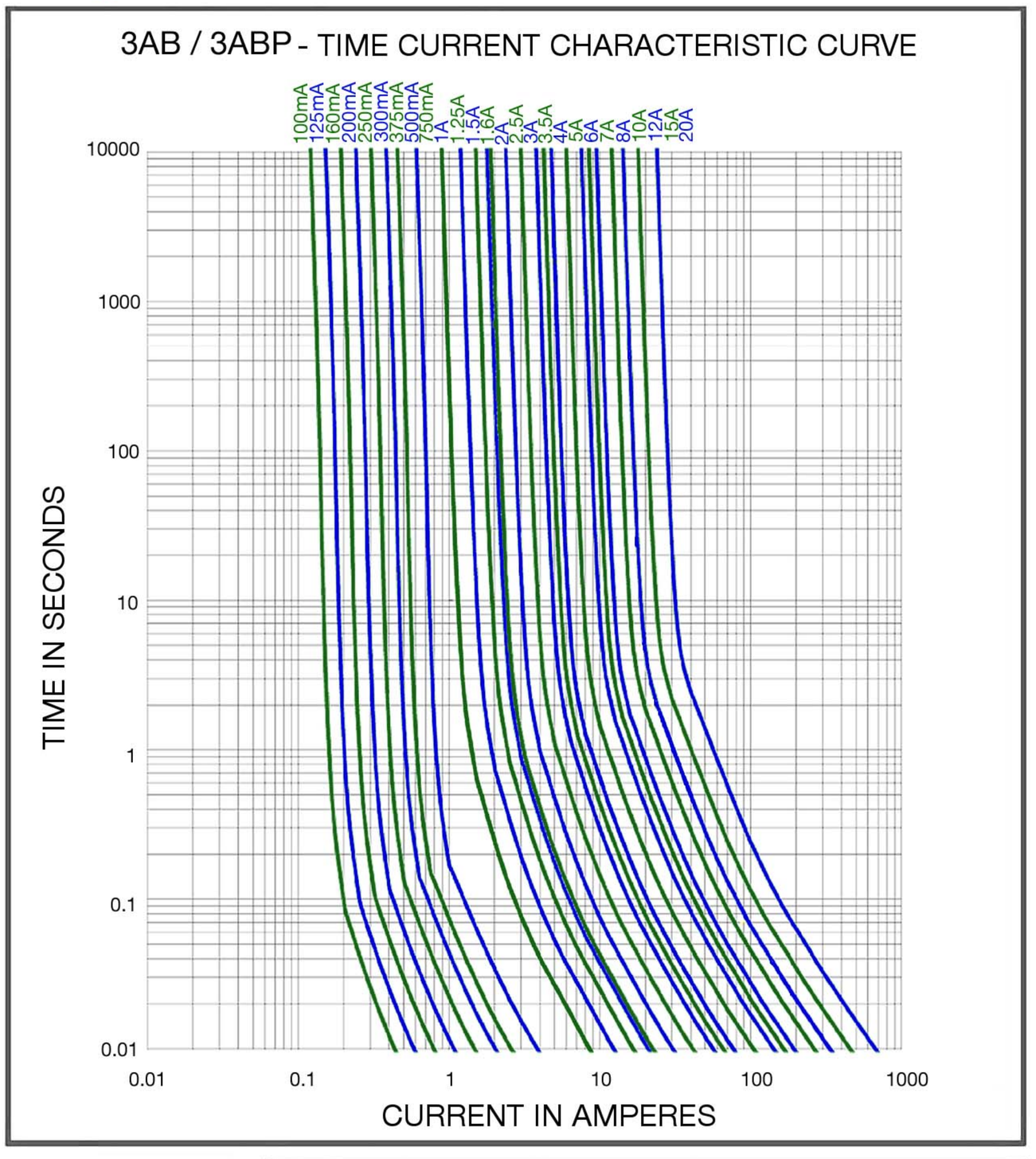
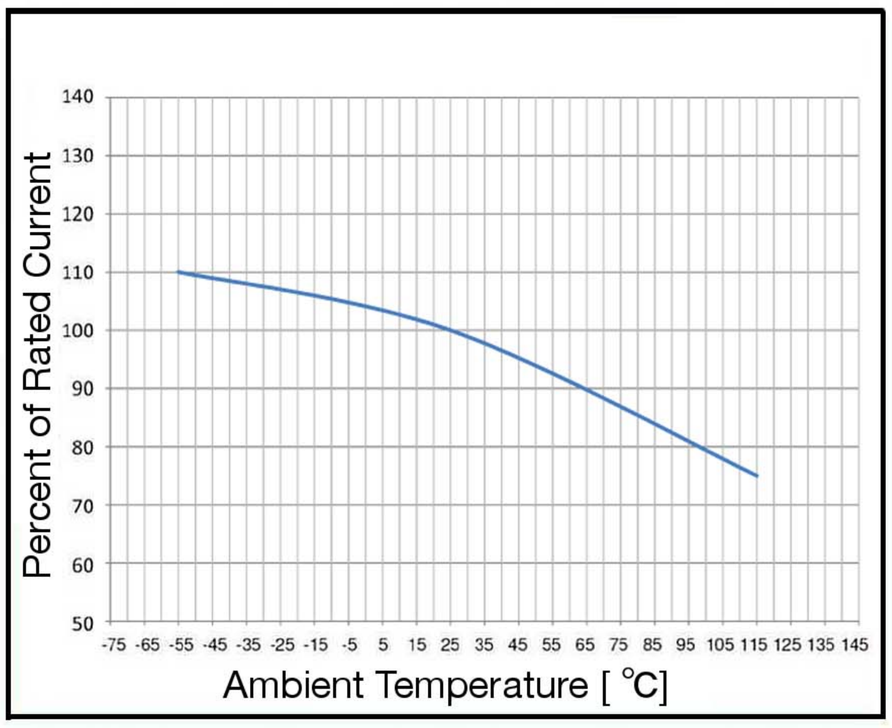
Average Time Current Curve

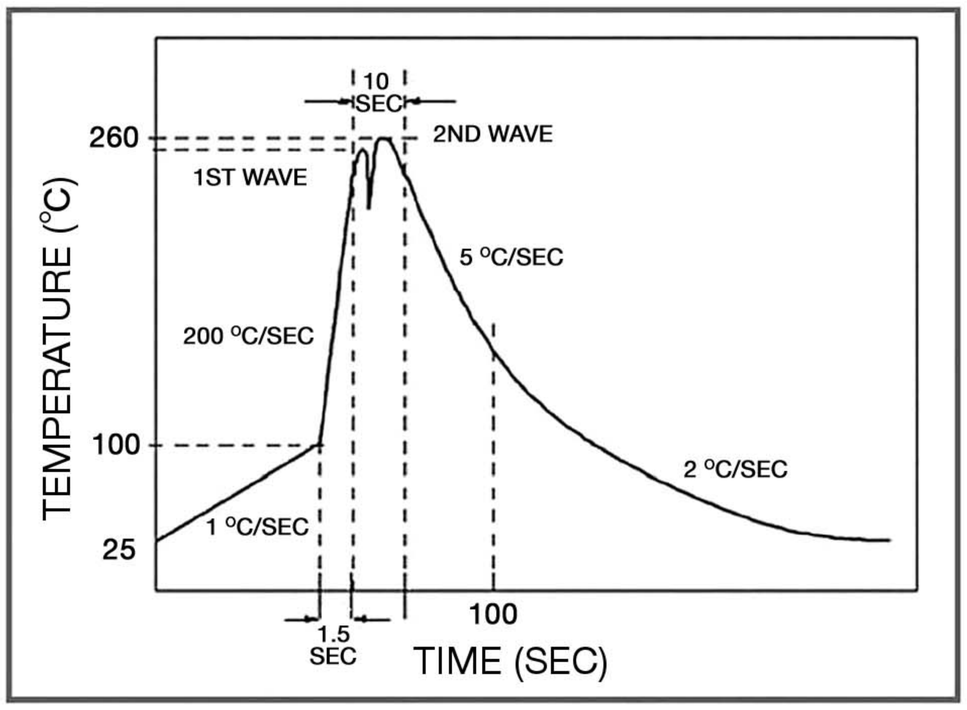


Temperature Derating Curve



Soldering Parameters

Lead-free Wave Soldering Profile	
Wave Soldering Parameter	
Average ramp-up rate	200 °C / second
Heating rate during preheat	typical 1 - 2 °C / second Max 4 °C / second
Final preheat temperature	within 125 °C of soldering temperature
Peak temperature Tp	260 °C
Time within +0 °C / -5 °C of actual peak temperature	10 seconds
Ramp-down rate	5 °C / second max.



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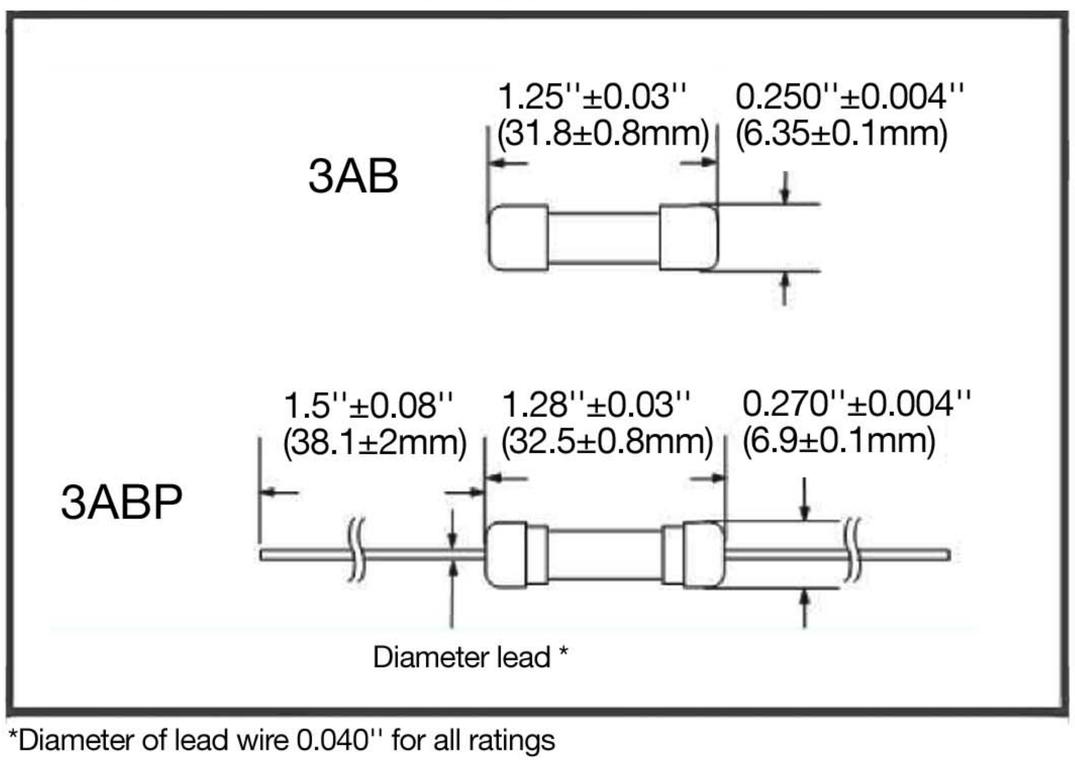
Fuse FGNO Explanation
06XX X [XXXX] X XX, [XXXX]=Ampere Rating

Fraction	Decimal	Milliamps	Bel FGNO[XXXX]
1/32	0.032	32	0032
1/25	.040	40	0040
1/20	.050	50	0050
1/16	.063	63	0063
8/100	.080	80	0080
1/10	.100	100	0100
1/8	.125	125	0125
15/100	.150	150	0150
	.160	160	0160
2/10	.200	200	0200
1/4	.250	250	0250
3/10	.300	300	0300
	.315	315	0315
3/8	.375	375	0375
4/10	.400	400	0400
1/2	.500	500	0500
6/10	.600	600	0600
	.630	630	0630
7/10	.700	700	0700
3/4	.750	750	0750
8/10	.800	800	0800

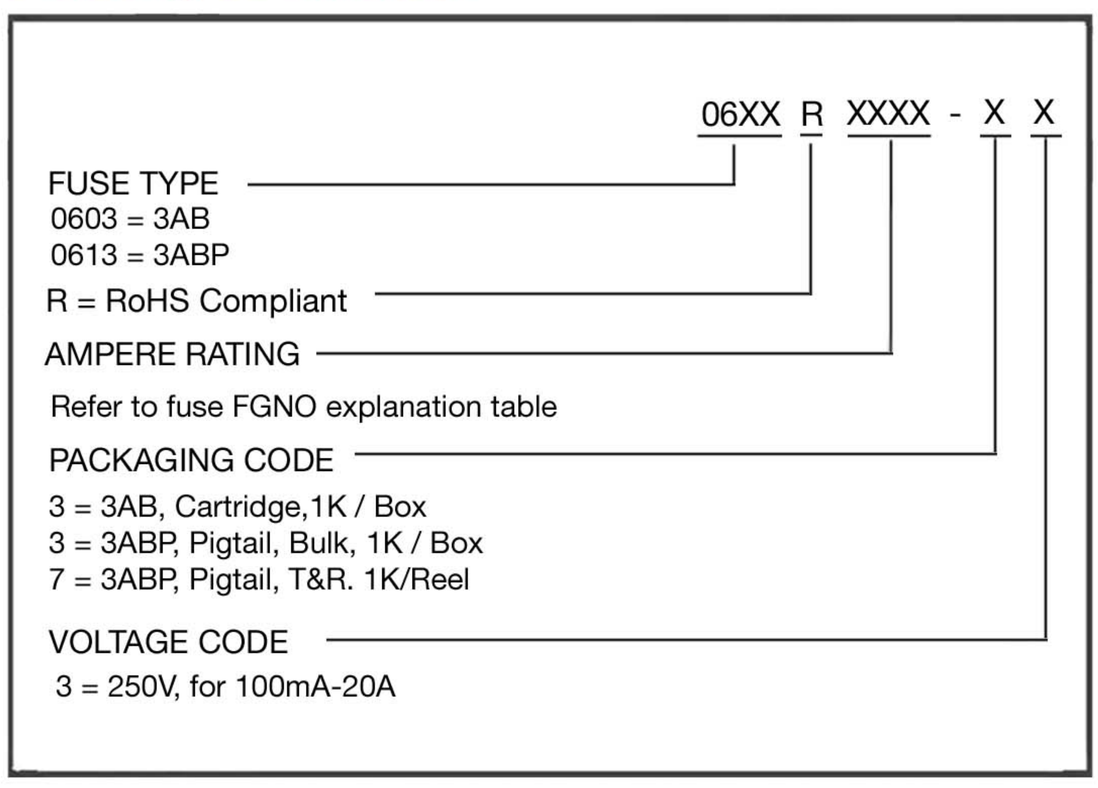
Fraction	Decimal	Amps	Bel FGNO[XXXX]
	1.0	1	1000
1-1/4	1.25	1.25	1250
1-1/2	1.50	1.5	1500
	1.60	1.6	1600
	2.0	2	2000
2-1/4	2.25	2.25	2250
2-1/2	2.5	2.5	2500
	3.0	3	3000
	3.15	3.15	3150
3-1/2	3.5	3.5	3500
	4.0	4	4000
	5.0	5	5000
	6.0	6	6000
	6.3	6.3	6300
	7.0	7	7000
7-1/2	7.5	7.5	7500
	8.0	8	8000
		10	9100
		12	9120
		15	9150
		20	9200
		25	9250
		30	9300

Mechanical Dimensions



*Diameter of lead wire 0.040'' for all ratings

Ordering Information



Packaging

Packaging Option	Packaging Specification	Quantity	Packaging Code	Inside Tape Spacing
Bulk	N/A	1000	33	N/A
Bulk (Pigtail Type)	N/A	1000	33	N/A
Tape & Reel, 10mm Pitch	EIA-296-F	1000	73	73

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