



# 10Amp. Glass Passivated Efficient Fast Recovery Rectifiers EF10CXXE3 Series

## Features

- Fast switching for high efficiency
- Low forward voltage drop
- High current capability
- Low reverse leakage current
- High surge current capability

## Mechanical Data

- Case: Molded plastic, TO-220AB
- Terminals: Solderable per MIL-STD-202 method 208
- Epoxy: UL 94V-0 rate flame retardant
- Mounting Position: Any
- Weight: 2.24 grams

## Maximum Ratings and Electrical Characteristics

(Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.)

Parameter Sy	mbol	Type					Units
		EF 10C01	EF 10C02	EF 10C03	EF 10C05	EF 10C06	
Maximum Recurrent peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	V
Maximum instantaneous forward voltage @ I <sub>F</sub> =5A	V <sub>F</sub> 0.95				1.25	1.85	V
Maximum Average forward rectified current @ T <sub>L</sub> =100°C	I <sub>(AV)</sub> 10						A
Peak forward surge current @ 8.3ms single half sine wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub> 100						A
Maximum DC reverse current V <sub>R</sub> =V <sub>RRM</sub> , T <sub>J</sub> =25°C V <sub>R</sub> =V <sub>RRM</sub> , T <sub>J</sub> =125°C	I <sub>R</sub>				10 250		μA
Diode junction capacitance @ f=1MHz and applied 4V reverse voltage	C <sub>J</sub> 65						pF
Maximum reverse recovery time @ I <sub>F</sub> =0.5A, I <sub>R</sub> =1A, I <sub>rr</sub> =0.25A	t <sub>rr</sub> 25						ns
Typical thermal resistance, junction to lead	R <sub>θJC</sub> 2.2						°C/W
Storage temperature	T <sub>stg</sub>	-55 ~ +150					°C
Operating temperature	T <sub>J</sub>	-55 ~ +150					°C

## Characteristic Curves

FIG.1 - FORWARD CURRENT DERATING CURVE

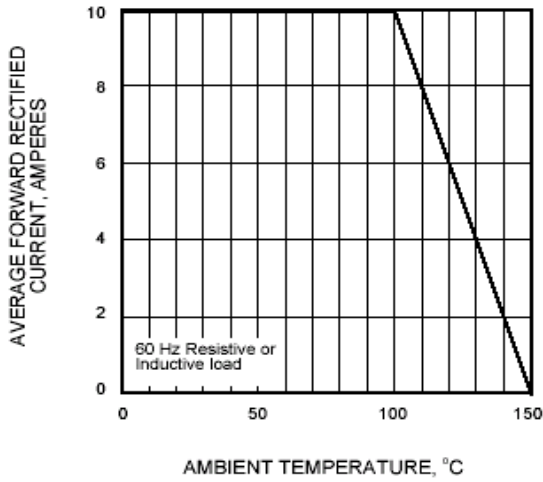


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

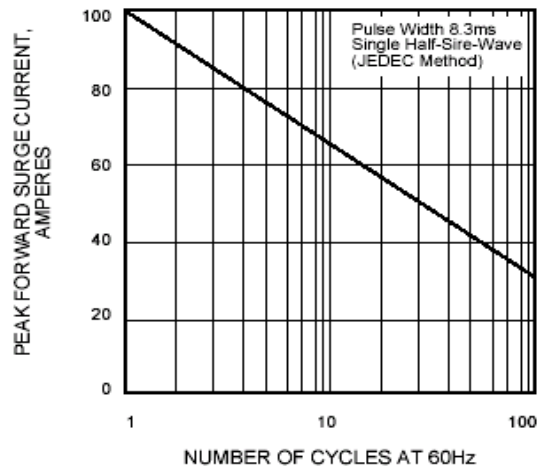


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

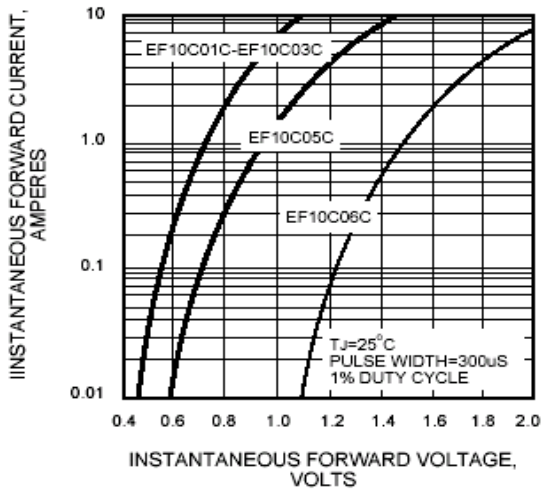


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

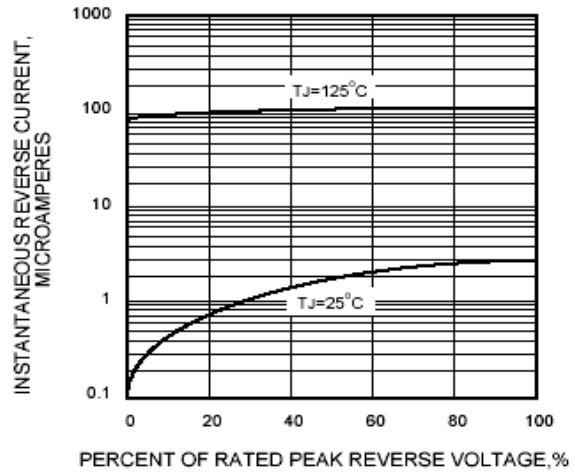
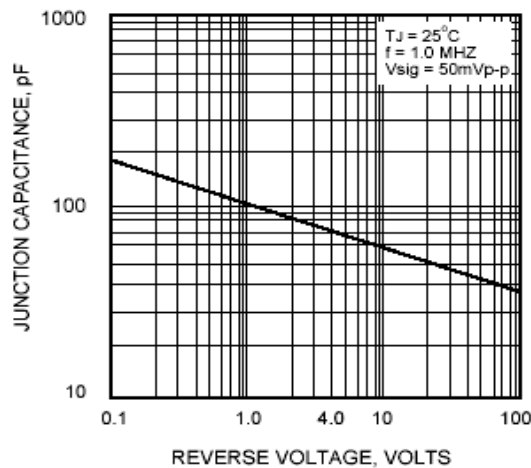
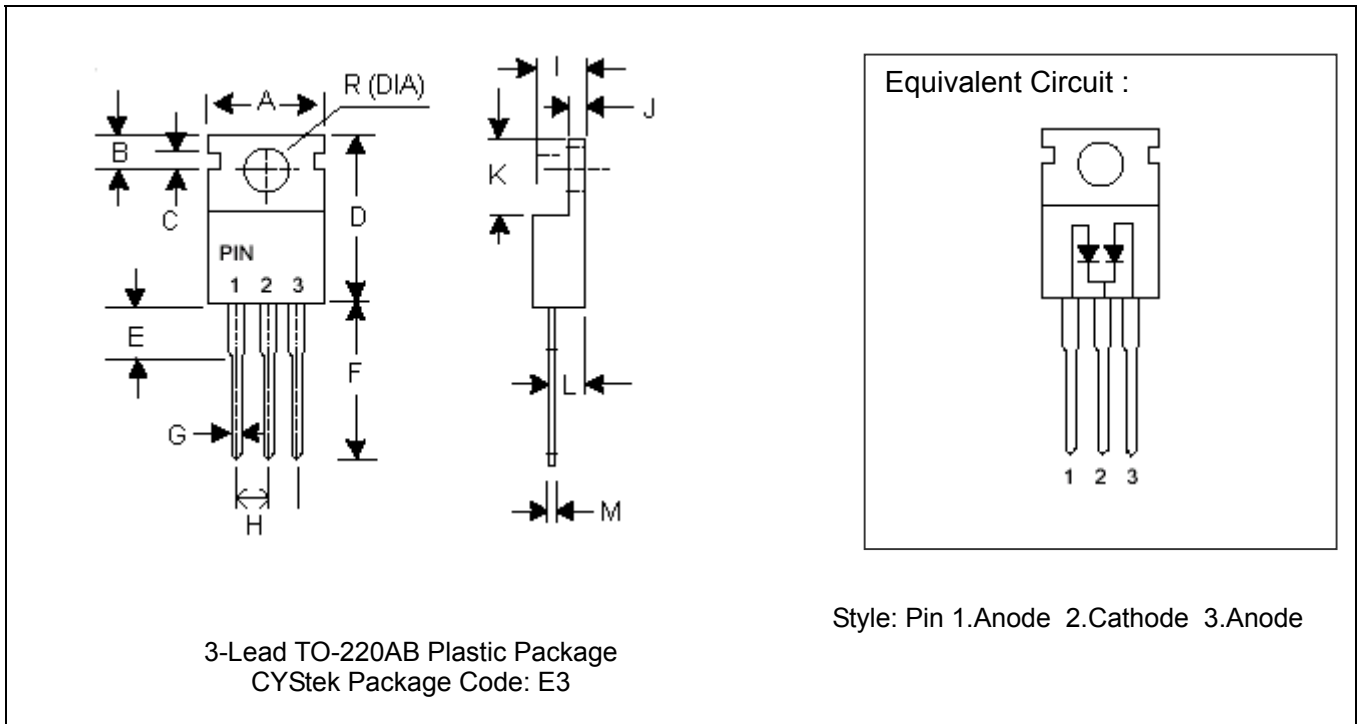


FIG.5 - TYPICAL JUNCTION CAPACITANCE



**TO-220AB Dimension**



DIM	Inches			Millimeters			DIM	Inches		Millimeters	
	Min.	Max		Min.	Max			Min.	Max	Min.	Max
A -		0.412	-	10.5			H	0.095	0.105	2.41	2.67
B 0.103		0.113	2.62	2.87			I	0.175	0.185	4.44	4.70
C	0.05	0.06	1.27	1.52			J	0.045	0.055	1.14	1.40
D 0.587		0.594	14.9	15.1			K	0.23	0.27	5.84	6.86
E	0.14	0.16	3.56	4.06			L	0.10	0.11	2.54	2.79
F 0.53		0.56	13.46	14.22			M	0.014	0.025	0.35	0.64
G 0.027		0.037	0.68	0.94			R	0.148	0.154	3.74	3.91

**Notes:** 1.Controlling dimension: millimeters.  
 2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.  
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

**Material:**

- Lead: 42 Alloy ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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