20Amp. Glass Passivated Efficient Fast Recovery Rectifiers

EF20CXXE3 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: Solderrable 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 20C01	EF 20C02	EF 20C03	EF 20C04	EF 20C05	EF 20C06	
Maximum Recurrent peak reverse voltage	V_{RRM}	50	100	200	300	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	600	V
Maximum instantaneous forward voltage@ I_F=10A	V_F	0.975			1.3		1.7	V
Maximum Average forward rectified current @ T_C=125℃	$I_{(AV)}$	20						A
Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	150			125			A
Maximum DC reverse current $V_R=V_{RRM}, T_J$=25℃ $V_R=V_{RRM}, T_J$=150℃	I_R	10 500						μA
Diode junction capacitance @ f=1MHz and applied 4V reverse voltage	C_J	120			70			pF
Maximum reverse recovery time@ I_F=0.5A, I_R=1A, Irr=0.25A	trr	25			35			ns
Storage temperature	Tstg	-55 ~ +150						℃
Operating temperature	T_J	-55 ~ +150						℃

Characteristic Curves

FIG.1 - FORWARD CURRENT DERATING CURVE

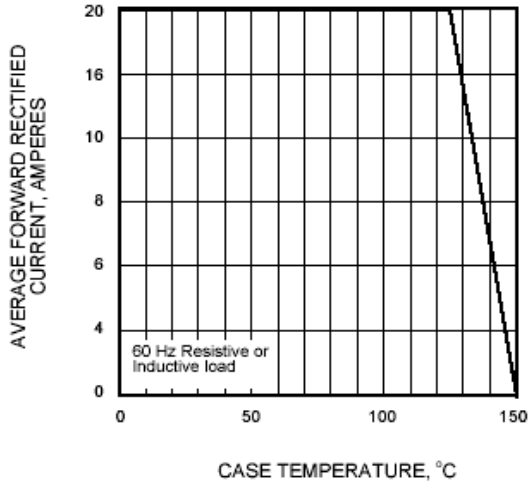


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

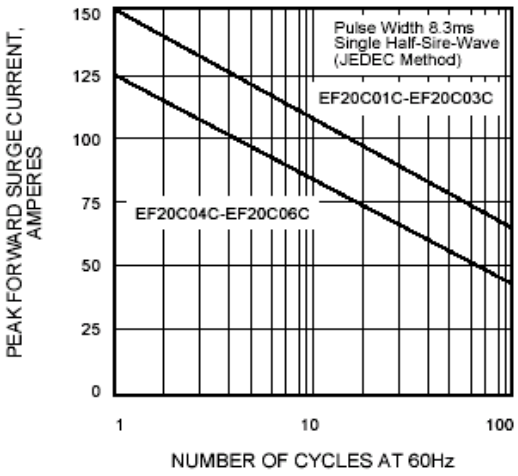


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

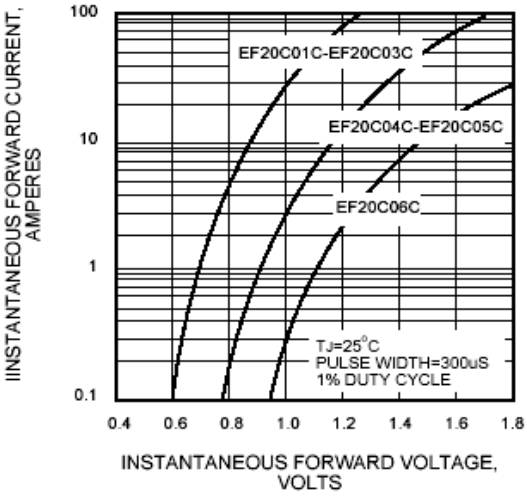


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

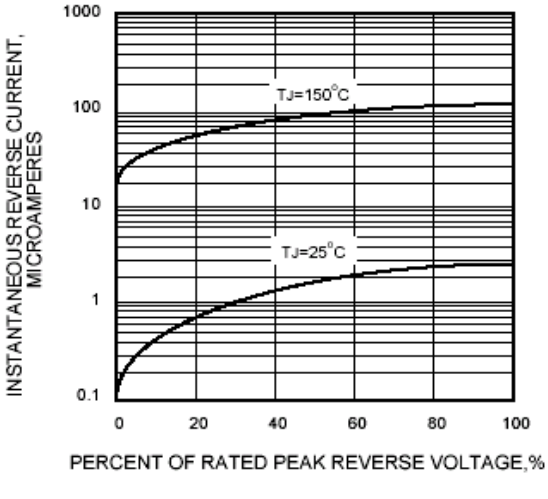
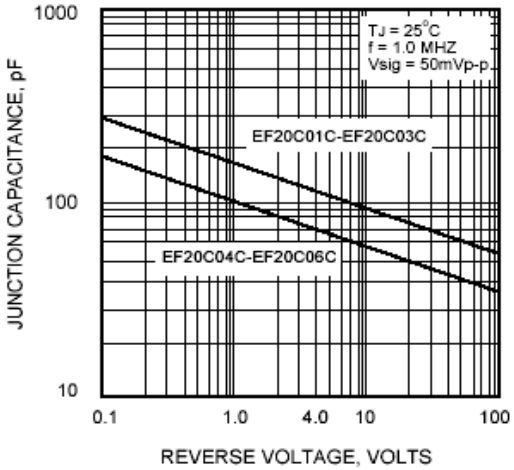
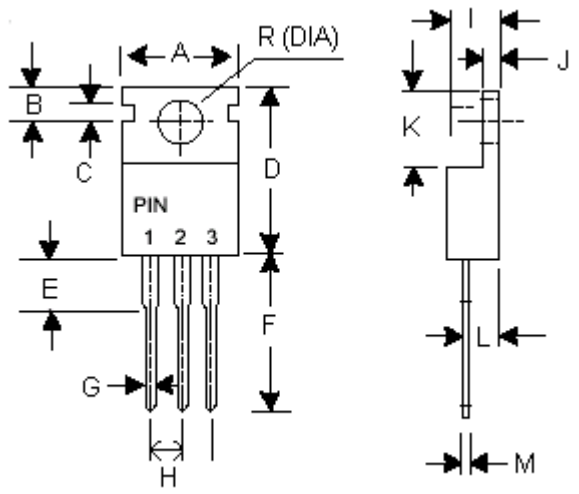


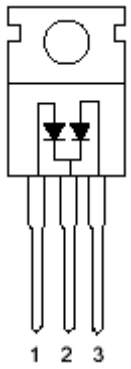
FIG.5 - TYPICAL JUNCTION CAPACITANCE



TO-220AB Dimension



Equivalent Circuit :



Style: Pin 1.Anode 2.Cathode 3.Anode

3-Lead TO-220AB Plastic Package
CYStek Package Code: E3

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	0.1	1 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