CMPFCD86
PFC Diode (8A/600V)

FEATURES

- Fast switching for high efficiency
- Low noise
- Trr = 20ns
- Low reverse leakage current
- High voltage super FRD
- PFC application

MECHANICAL DATA

- Case : Molded plastic TO-220AC / TO-220FP
- Epoxy : UL94V-0 rate flame retardant
- Terminals : Solder able per MIL-STD-202 method 208
- Mounting position : Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave , 60Hz , resistive or inductive load.
For capacitive load , derate current by 20%

Symbol	Characteristics	CMPFCD86	Unit
		Rating	
V_{RRM}	Recurrent Peak Reverse Voltage	600	V
V_{RMS}	RMS Voltage	420	V
V_{DC}	DC Blocking Voltage	600	V
$IF_{(AV)}$	Average Forward Rectified Current @Tc=140℃	8.0	A
I_{FSM}	Peak Forward Surge Current 8.3ms single half sine-wave Super imposed on rated load (JEDEC Method)	100	A
I_{FSM}	Peak Forward Surge Current 1.0ms single Square-wave superimposed on rated load (JEDEC Method)	150	A
V_F	Instantaneous Forward Voltage @8A	2.9	V
I_R	DC Reverse Current @T_J=25℃	10	uA
	At Rated DC Blocking Voltage @T_J=150℃	500	
Trr	Maximum Reverse Recovery Time (note1)	20	nS
C_J	Typical Junction Capacitance (note2)	50	pF
$R_{\theta JC}$	Typical Thermal Resistance (note3)	2.2	℃/ W
I^2t	I^2t Value For Fusing Tp=10ms	91	A^2s
T_J	Operating Temperature Range	-65~175	℃
T_{STG}	Storage Temperature Range	-65~175	℃

Notes : 1. Reverse recovery test conditions I_F=0.5A , I_R=1.0A , Irr=0.25A
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts DC.
3. Thermal Resistance junction to case.

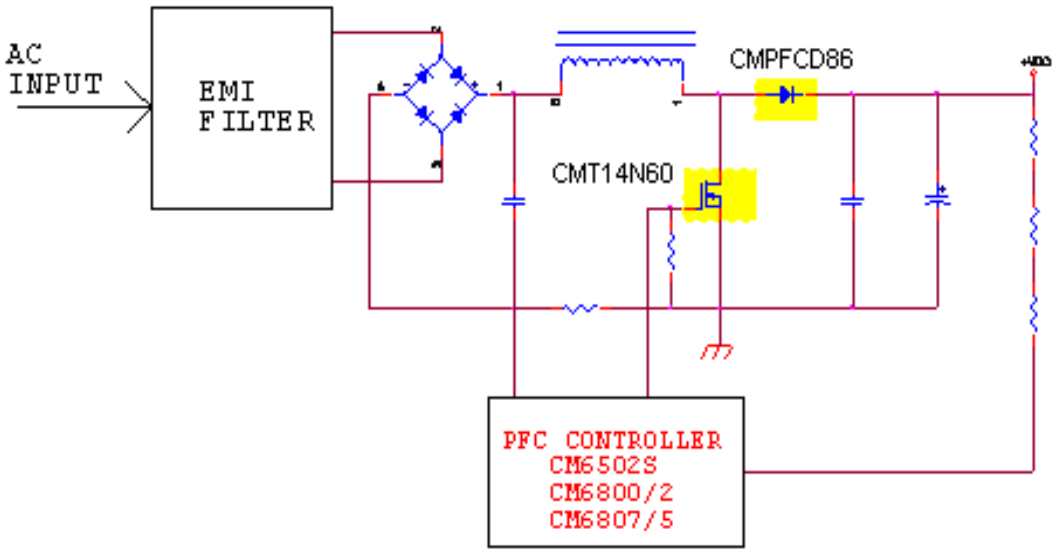
ORDERING INFORMATION

Part Number	Temperature Range	Package
CMPFCD86GN220*	-65℃ to 175℃	TO-220AC (Pb Free)
CMPFCD86XN220*	-65℃ to 175℃	TO-220AC (HF)
CMPFCD86GN220FP*	-65℃ to 175℃	TO-220FP

*Note : G : Suffix for Pb Free Product

X : Suffix for Halogen Free

Application Circuit



TYPICAL CHARACTERISTICS

FIG.1 - FORWARD CURRENT DERATING CURVE

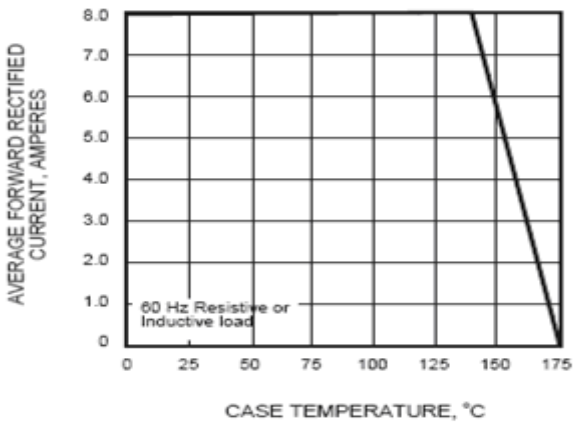


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

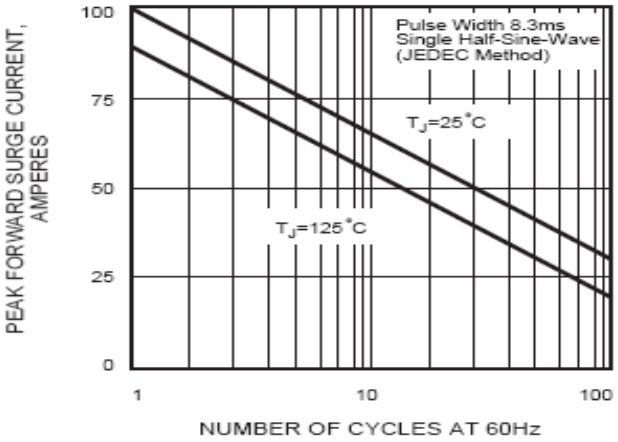


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

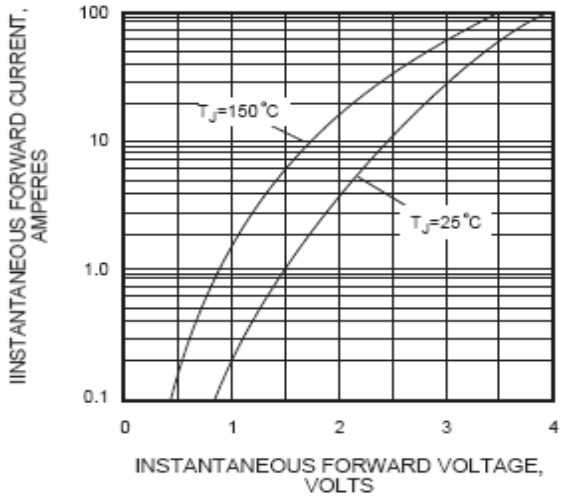


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

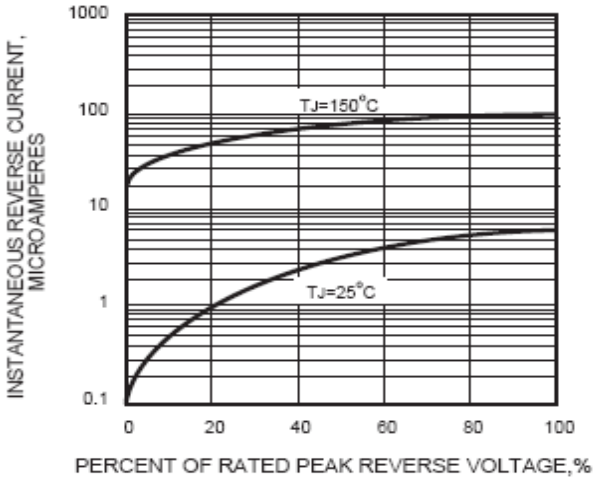


FIG.5 - TYPICAL JUNCTION CAPACITANCE

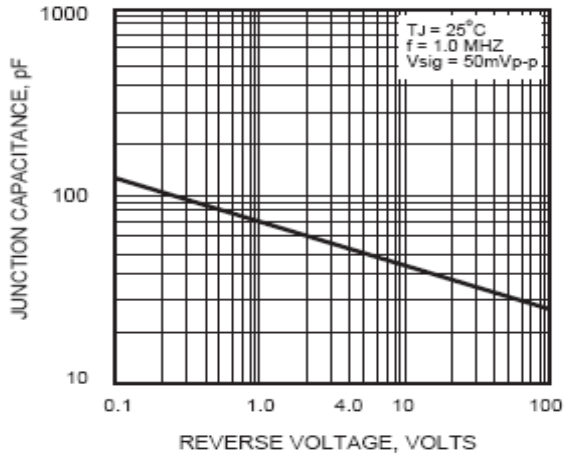
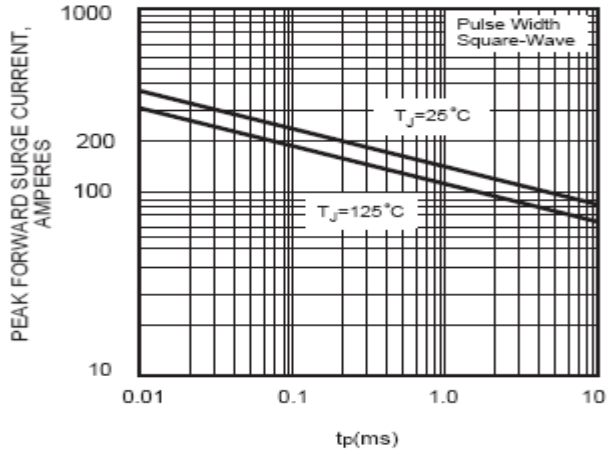


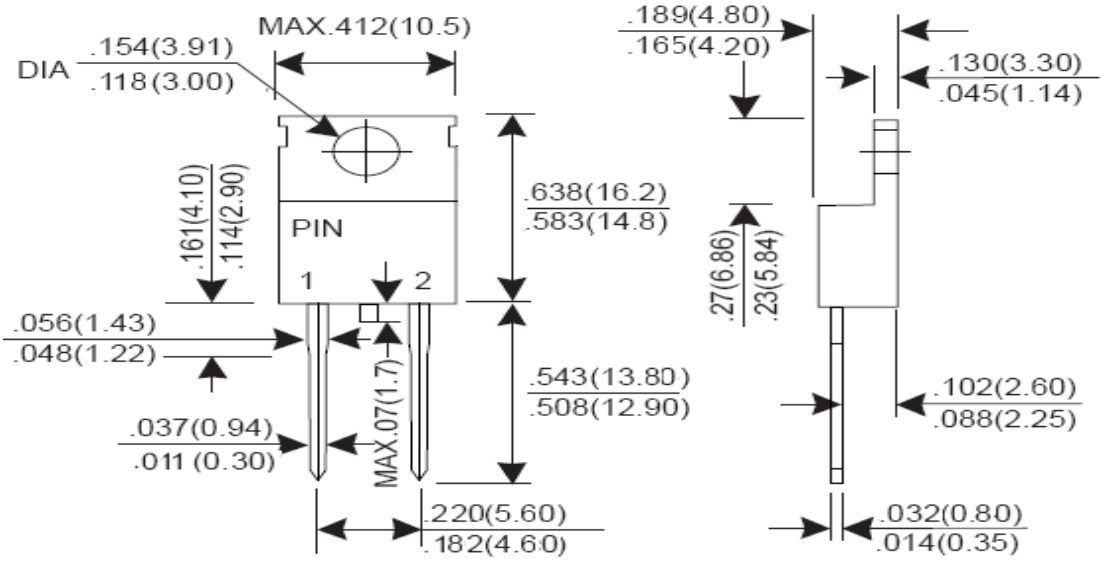
FIG.6 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



PACKAGE DIMENSION

TO-220AC

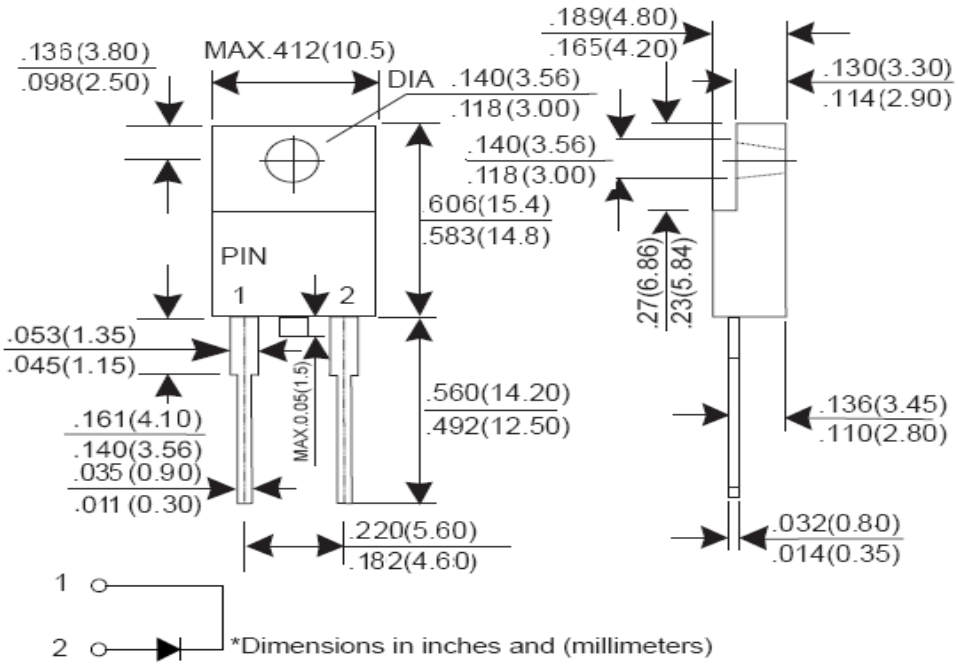
Dimensions in inches and (millimeters)



*Dimensions in inches and (millimeters)

TO-220FP

Dimensions in inches and (millimeters)



*Dimensions in inches and (millimeters)

IMPORTANT NOTICE

Champion Microelectronic Corporation (CMC) reserves the right to make changes to its products or to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

A few applications using integrated circuit products may involve potential risks of death, personal injury, or severe property or environmental damage. CMC integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life-support applications, devices or systems or other critical applications. Use of CMC products in such applications is understood to be fully at the risk of the customer. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

HsinChu Headquarter

5F, No. 11, Park Avenue II,
Science-Based Industrial Park,
HsinChu City, Taiwan

T E L : +886-3-567 9979
F A X : +886-3-567 9909
http://www.champion-micro.com

Sales & Marketing

21F., No. 96, Sec. 1, Sintai 5th Rd., Sijhih City,
Taipei County 22102,
Taiwan R.O.C

T E L : +886-2-2696 3558
F A X : +886-2-2696 3559