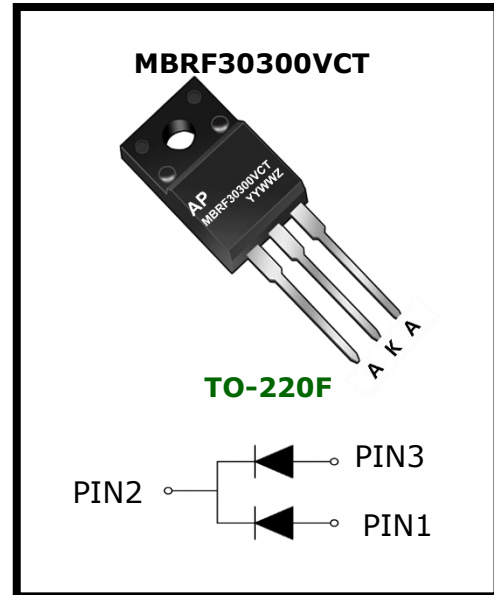




300V30A Low VF Schottky Barrier Rectifier

Characteristics Summary

Characteristics	Values	Units
IF(AV)	15A X 2	A
VRRM	300	V
VF@15A, TJ = 25°C	0.92	V, typ.
TJ, Operating Junction Temperature	-55 to +150	°C



Features

- Low Forward Voltage (VF) Drop
- High frequency operation
- Softest, fast switching capability
- High Surge capacity
- Guard ring for Over voltage protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Metal silicon junction, majority carrier conduction

Mechanical data

- Case: TO-220F-3L
- Approx Weight: 1.767g (0.062oz)
- Lead free finish, RoHS compliant
- Case Material: "Green" molding compound, UL flammability classification 94V-0,"Halogen-free".

Application

- DCDC Converter for LED lighting
- Battery charger
- SMPS



Maximum Ratings Characteristics

(TA = 25°C unless otherwise specified)

Parameter	Symbol	Values	Units
DC Blocking Voltage	V _{RM}	300	V
Working Peak Reverse Voltage	V _{RWM}		V
Peak Repetitive Reverse Voltage	V _{RRM}		V
Average Rectified Forward Current Per device	I _D	30	A
(Rated VR-20Khz Square Wave) – 50% duty cycle			
Peak Forward Surge Current – 1/2 60hz	I _{FSM}	250	A
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	1	A
Power Dissipation (T _J = 25°C)	P _D	45	W
Typical Thermal Resistance Package = TO-220F	R _{θJC}	4.5	°C / W
Isolation voltage (TO-220F only)	V _{AC}	1500	V
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	V/uS
Operating Junction Temperature	T _J	-55 to +150	°C
Storage Junction Temperature	T _{STG}	-55 to +150	

Electrical Characteristics – (per leg)

(TA = 25°C unless otherwise specified)

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF=3A	TJ = 25°C	VF*	0.68		V
	IF=10A			0.84	0.88	
	IF=20A			0.86	0.92	
Instantaneous Reverse Current	VR=300V	TJ = 25°C	IR*	1.2	5	uA
		TJ = 125°C		3	-	mA
Notes: 1. Pulse test: 300 μs pulse width,1% duty cycle 2. Pulse test: pulse width≤40ms						



Characteristics Curves

($T_A = 25^{\circ}\text{C}$ unless otherwise specified)

FIG.1: FORWARD CURRENT DERATING CURVE

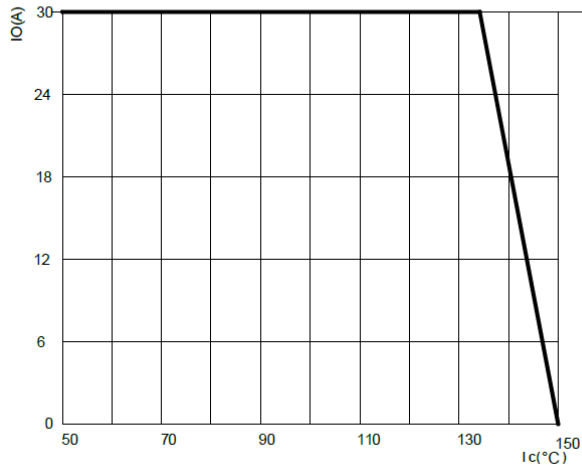


FIG.2: MAXIMUM NON-REPETITIVE FORWARD DUTY CURRENT

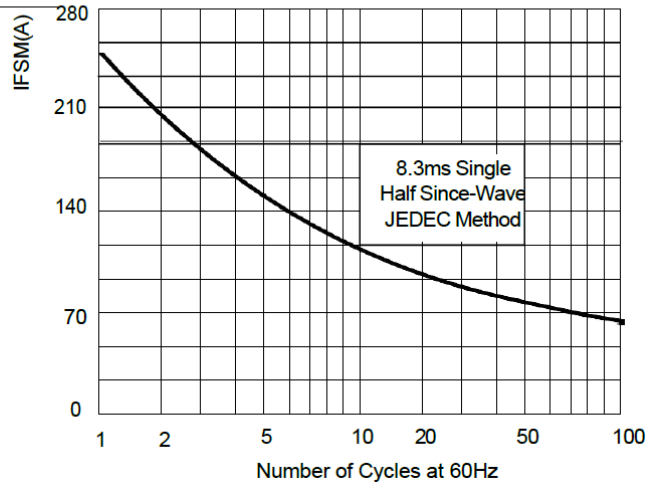


FIG.3: INSTANTANEOUS FORWARD VOLTAGE

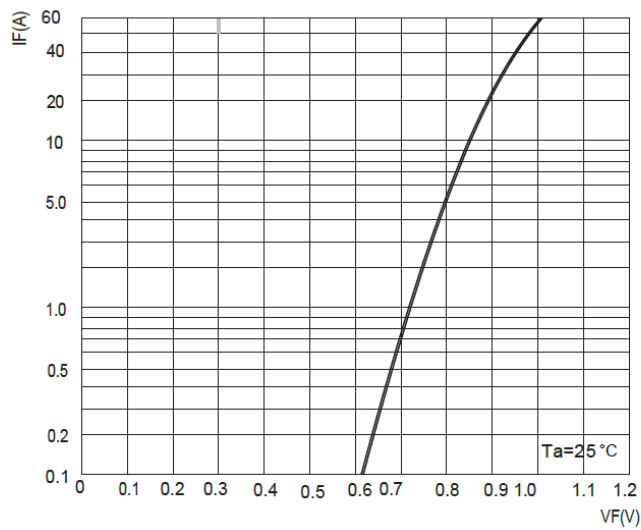
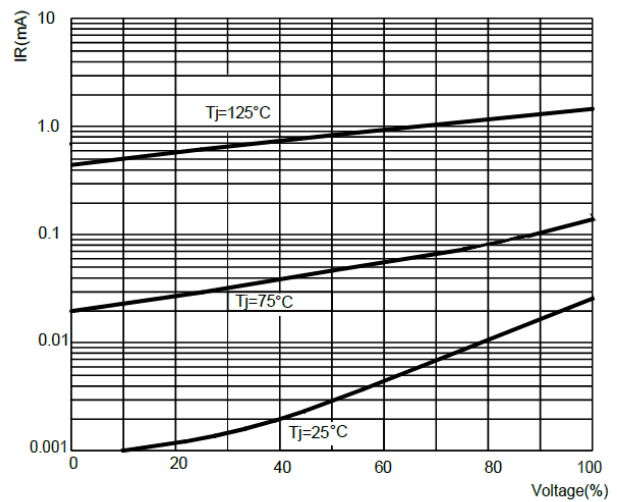


FIG.4: TYPICAL REVERSE CHARACTERISTICS





Package Dimension

TO-220F-3L

unit : mm

	Dim.	Min.	Max.
	A	10	10.3
	A1	4.5	4.9
	B	3.2	3.4
	C	1.3	1.7
	D	12.9	13.3
	E	0.45	0.55
	F	3.4	3.8
	G	1.2	1.4
	H	Typ:2.54	
	I	Typ:5.08	
	J	4.6	4.8
	K	2.45	2.65
	L	6.6	6.8
	M	15.73	15.83
	N	2.65	2.85
	O	0.45	0.55
	P	0.65	0.75
	All Dimensions in millimeter		

Ordering Information

Part No	Package	Packing	Finish	Halogen	Packing Unit
MBRF30300VCT	TO-220F	Tube	Sn	Free	Tube=50pcs Inner = 1,000pcs MOQ = 5,000pcs

REV. 02



Revision History

No	Date	Contents
0	2024-12-03	Initial Brief Datasheet Release

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