

3A, 100V - 200V Ultra Fast Surface Mount Rectifier

FEATURES

- AEC-Q101 qualified
- Planar technology
- Low power loss, high efficiency
- Ideal for automated placement
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- High frequency switching
- DC/DC
- Snubber

MECHANICAL DATA

• Case: SOD-128

• Molding compound meets UL 94V-0 flammability rating

• Terminal: Matte tin plated leads, solderable per J-STD-002

Meet JESD 201 class 2 whisker test

· Polarity: Indicated by cathode band

• Weight: 0.028g (approximately)

KEY PARAMETERS			
PARAMETER	VALUE	UNIT	
I _F	3	Α	
V_{RRM}	100 - 200	V	
I _{FSM}	85	Α	
T _{J MAX}	175	°C	
Package	SOD-128		
Configuration	Single die		









SOD-128



PARAMETER		SYMBOL	PU3BFSH	PU3DFSH	UNIT
Marking code on the device			PU3BFS	PU3DFS	
Repetitive peak reverse voltage		V_{RRM}	100	200	V
Reverse voltage, total rms value		V _{R(RMS)}	70	140	V
Forward current		I _F	3		Α
Surge peak forward current single half	t = 8.3ms		85 170		А
sine-wave superimposed on rated load	t = 1.0ms	- I _{FSM}			
Junction temperature		TJ	-55 to +175		°C
Storage temperature		T _{STG}	-55 to +175		°C

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THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	14	°C/W
Junction-to-ambient thermal resistance	R _{OJA}	74	°C/W
Junction-to-case thermal resistance	R _{eJC}	19	°C/W

Thermal Performance Note: Units mounted on PCB (5mm x 5mm Cu pad test board)

ELECTRICAL SPECIFICATIONS (T _A = 25°C unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
	I _F = 1.5A, T _J = 25°C		0.81	-	V
Forward voltage ⁽¹⁾	I _F = 3.0A, T _J = 25°C	\/	0.86	0.93	V
Forward vollage	I _F = 1.5A, T _J = 125°C	V _F	0.66	-	V
	I _F = 3.0A, T _J = 125°C		0.73	-	V
Deverse surrent @ rated V (2)	T _J = 25°C	1	-	2	μA
Reverse current @ rated V _R ⁽²⁾	T _J = 125°C	l _R	-	10	μA
Junction capacitance	$1MHz, V_R = 4.0V$	CJ	47	-	pF
Dovorce receivery time	$I_F = 0.5A$, $I_R = 1.0A$, $I_{rr} = 0.25A$	4	-	25	ns
Reverse recovery time	$I_F = 1.0A$, di/dt = 50A/ μ s, $V_R = 30V$	t _{rr}	31	-	
Reverse recovery current		I _{RM}	4.9	-	Α
Reverse recovery charge	$I_F = 3.0A$, di/dt = 200A/ μ s, $V_R = 100V$	Q _{rr}	51	-	nC
Reverse recovery time		t _{rr}	23	-	ns

Notes:

- 1. Pulse test with PW = 0.3ms
- 2. Pulse test with PW = 30ms

ORDERING INFORMATION		
ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
PU3xFSH	SOD-128	14,000/ Tape & Reel

Notes:

1. "x" defines voltage from 100V(PU3BFSH) to 200V(PU3DFSH)



CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

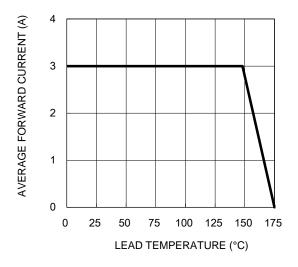


Fig.3 Typical Reverse Characteristics

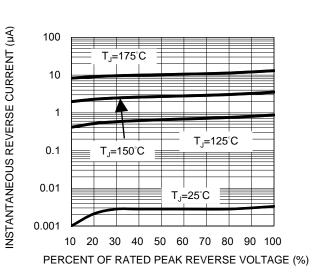


Fig.2 Typical Junction Capacitance

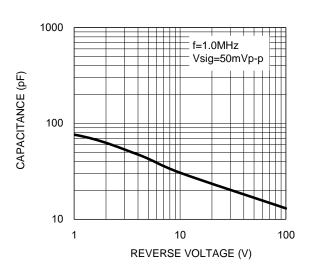


Fig.4 Typical Forward Characteristics

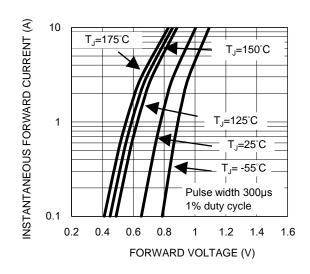
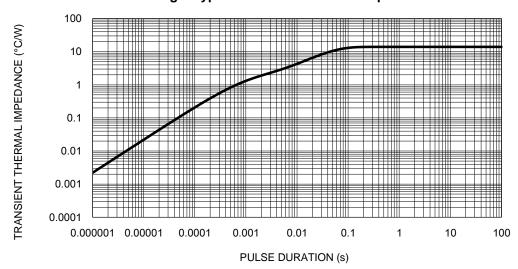


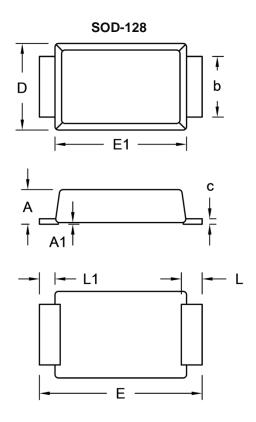
Fig.5 Typical Transient Thermal Impedance





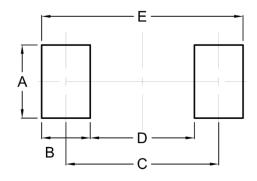


PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit	(inch)	
Dilvi.	Min.	Max.	Min.	Max.	
Α	0.90	1.10	0.035	0.043	
A1	0.00	0.10	0.000	0.004	
b	1.60	1.90	0.063	0.075	
С	0.10	0.22	0.004	0.009	
D	2.30	2.70	0.091	0.106	
E	4.40	5.00	0.173	0.197	
E1	3.60	4.00	0.142	0.157	
L	0.40	0.80	0.016	0.031	
L1	0.30	0.60	0.012	0.024	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
Α	2.10	0.083
В	1.40	0.055
С	4.40	0.173
D	3.00	0.118
E	5.80	0.228

MARKING DIAGRAM



P/N = Marking Code YW = Date Code F = Factory Code



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