

6A, 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: DO-214AB (SMC)
- 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: 0.201g (approximately)

KEY PARAMETERS			
PARAMETER	VALUE	UNIT	
I _F	6	Α	
V_{RRM}	100 - 200	V	
I _{FSM}	160	Α	
T _{J MAX}	175	°C	
Package	DO-214AB (SMC)		
Configuration	Single die		









DO-214AB (SMC)



PARAMETER		SYMBOL	PU6BCH	PU6DCH	UNIT
Marking code on the device			PU6BC	PU6DC	
Repetitive peak reverse voltage		V_{RRM}	100	200	V
Reverse voltage, total rms value		V _{R(RMS)}	70	140	V
Forward current		I _F	6		Α
Surge peak forward current single half	t = 8.3ms	,	160		A
sine-wave superimposed on rated load	t = 1.0ms	I _{FSM}	360		
Junction temperature		TJ	-55 to +175		°C
Storage temperature		T _{STG}	-55 to +175		°C



THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	12	°C/W
Junction-to-ambient thermal resistance	R _{OJA}	57	°C/W
Junction-to-case thermal resistance	R _{eJC}	13	°C/W

Thermal Performance Note: Units mounted on PCB (16mm x 16mm Cu pad test board)

ELECTRICAL SPECIFICATIONS (T _A = 25°C unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 3A, T_J = 25^{\circ}C$		0.79	-	V
	I _F = 6A, T _J = 25°C	\/	0.85	0.94	V
	I _F = 3A, T _J = 125°C	V _F	0.65	-	V
	I _F = 6A, T _J = 125°C		0.71	-	V
Reverse current @ rated V _R ⁽²⁾	T _J = 25°C		-	2	μA
	T _J = 125°C	l _R	-	15	μΑ
Junction capacitance	$1MHz, V_R = 4.0V$	CJ	110	-	pF
Doverse recovery time	$I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A$	4	-	25	ns
Reverse recovery time	$I_F = 1.0A$, $di/dt = 50A/\mu s$, $V_R = 30V$	t _{rr}	31	-	
Reverse recovery current	Reverse recovery current		5.3	-	Α
Reverse recovery charge	$I_F = 6.0A$, di/dt = 200A/ μ s, $V_R = 100V$	Q _{rr}	72	-	nC
Reverse recovery time		t _{rr}	27	-	ns

Notes:

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

ORDERING INFORMATION		
ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
PU6xCH	DO-214AB (SMC)	3,000/ Tape & Reel

Notes:

1. "x" defines voltage from 100V(PU6BCH) to 200V(PU6DCH)



CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

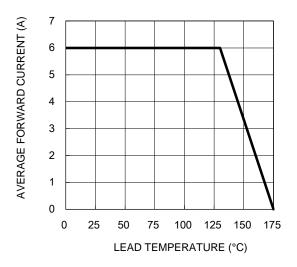
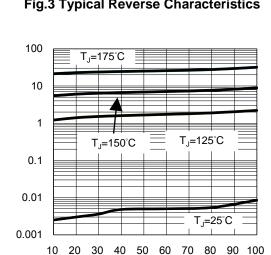


Fig.3 Typical Reverse Characteristics



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)

INSTANTANEOUS REVERSE CURRENT (µA)

Fig.2 Typical Junction Capacitance

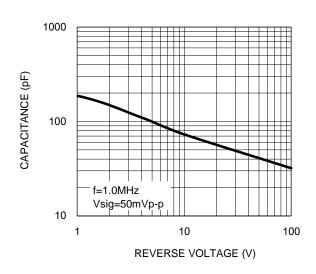


Fig.4 Typical Forward Characteristics

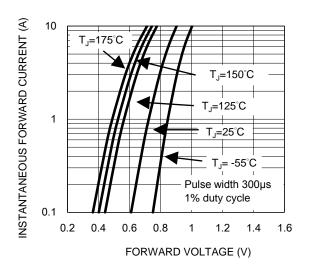
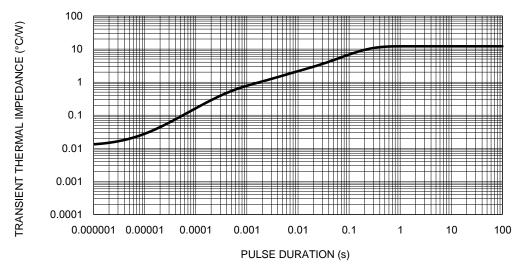


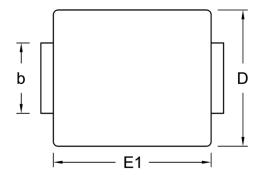
Fig.5 Typical Transient Thermal Impedance

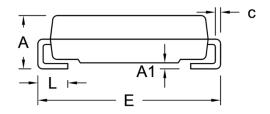




PACKAGE OUTLINE DIMENSIONS

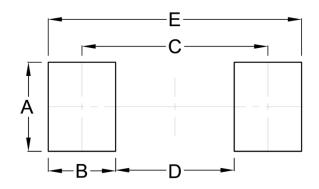
DO-214AB (SMC)





DIM.	Unit (mm)		Unit ((inch)	
DIN.	Min.	Max.	Min.	Max.	
Α	2.00	2.62	0.079	0.103	
A1	0.10	0.20	0.004	0.008	
b	2.90	3.20	0.114	0.126	
С	0.15	0.31	0.006	0.012	
D	5.59	6.22	0.220	0.245	
E	7.75	8.13	0.305	0.320	
E1	6.60	7.11	0.260	0.280	
L	1.00	1.60	0.039	0.063	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
Α	3.30	0.130
В	2.50	0.098
С	6.90	0.272
D	4.40	0.173
E	9.40	0.370

MARKING DIAGRAM



P/N = Marking Code G = Green Compound

ΥW = Date Code F = Factory Code

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