

1A, 600V Standard Rectifier

FEATURES

- AEC-Q101 qualified available
- Ideal for automated placement
- Compact package size
- High surge current capability
- Low power loss, high efficiency
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- DC to DC converter
- Switching mode converters and inverters
- General purpose

MECHANICAL DATA

- Case: A-405
- 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: As marked
- Weight: 0.200g (approximately)







ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted)			
PARAMETER	SYMBOL	1N4005SG	UNIT
Marking code on the device		1N4005SG	
Repetitive peak reverse voltage	V _{RRM}	600	V
Reverse voltage, total rms value	V _{R(RMS)}	420	V
Forward current	I _F	1	Α
Surge peak forward current 8.3ms single half sine wave superimposed on rated load	I _{FSM}	30	Α
Junction temperature	TJ	-55 to +150	°C
Storage temperature	T _{STG}	-55 to +150	°C



THERMAL PERFORMANCE			
PARAMETER	SYMBOL	ТҮР	UNIT
Junction-to-lead thermal resistance	R _{θJL}	26	°C/W
Junction-to-ambient thermal resistance	R _{ÐJA}	46	°C/W
Junction-to-case thermal resistance	R _{eJC}	27	°C/W

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

ELECTRICAL SPECIFICATIONS ($T_A = 25^{\circ}C$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	ТҮР	MAX	UNIT
	$I_F = 0.5A, T_J = 25^{\circ}C$	V _F	0.89	0.94	V
Forward voltage ⁽¹⁾	$I_F = 1.0A, T_J = 25^{\circ}C$		0.94	1.00	V
Folward voltage	$I_F = 0.5A, T_J = 125^{\circ}C$		0.77	0.82	V
	$I_F = 1.0A, T_J = 125^{\circ}C$		0.83	0.88	V
Reverse current @ rated $V_R^{(2)}$	$T_J = 25^{\circ}C$	I _R	-	5	μA
	T _J = 125°C		-	100	μA
Junction capacitance	1MHz, V _R = 4.0V	CJ	14	-	pF

Notes:

1. Pulse test with PW = 0.3ms

2. Pulse test with PW = 30ms

ERING INFORMATION		
ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
1N4005SG	A-405	5,000 / Tape & Reel
1N4005SG A0G	A-405	3,000 / Ammo box
1N4005SGH	A-405	5,000 / Tape & Reel
1N4005SGHA0G	A-405	3,000 / Ammo box

Notes:

1. "H" means ACE-Q101 qualified



CHARACTERISTICS CURVES

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



Fig.1 Forward Current Derating Curve

Fig.2 Typical Junction Capacitance

Fig.3 Typical Reverse Characteristics

Fig.4 Typical Forward Characteristics





PACKAGE OUTLINE DIMENSIONS



DIM. Unit		(mm)	Unit (inch)	
DIN.	Min.	Max.	Min.	Max.
А	25.40	-	1.000	-
В	4.20	5.40	0.165	0.213
С	0.53	0.64	0.021	0.025
D	2.00	2.70	0.079	0.106

MARKING DIAGRAM



P/N	= Marking Code
G	= Green Compound
YWW	= Date Code
F	= Factory Code



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