4A, 200V - 600V Ultra Fast Rectifier

FEATURES

- AEC-Q101 qualified available
- Ultra fast recovery time for high efficiency
- Excellent high temperature switching
- Glass passivated chip junction
- RoHS Compliant
- Halogen-free

APPLICATIONS

- DC to DC converter
- Switching mode converters and inverters
- Freewheeling application

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	4	A
V_{RRM}	200 - 600	V
I_{FSM}	125	A
$T_{J\ MAX}$	175	°C
Package	DO-201AD	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

MECHANICAL DATA

- Case: DO-201AD
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 1.20g (approximately)

DO-201AD

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)					
PARAMETER	**SYMBOL**	**MUR4L20**	**MUR4L40**	**MUR4L60**	**UNIT**
Marking code on the device		MUR4L20	MUR4L40	MUR4L60	
Repetitive peak reverse voltage	V_{RRM}	200	400	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	140	280	420	V
Forward current	I_F	4			A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	125			A
Junction temperature	T_J	-55 to +175			°C
Storage temperature	T_{STG}	-55 to +175			°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	15	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	36	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	MUR4L20	I_F = 4A, T_J = 25°C	V_F	-	0.89	V
	MUR4L40 MUR4L60			-	1.28	V
Reverse current @ rated V_R[2]	MUR4L20	T_J = 25°C	I_R	-	5	μA
	MUR4L40 MUR4L60			-	10	μA
	MUR4L20	T_J = 125°C		-	150	μA
	MUR4L40 MUR4L60			-	250	μA
Junction capacitance		1MHz, V_R = 4.0V	C_J	65	-	pF
Reverse recovery time	MUR4L20	I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A	t_{rr}	-	25	ns
	MUR4L40 MUR4L60			-	50	ns

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1][2]	PACKAGE	PACKING
MUR4Lx	DO-201AD	1,250 / Tape & Reel
MUR4Lx A0G	DO-201AD	500 / Ammo box
MUR4LxH	DO-201AD	1,250 / Tape & Reel
MUR4LxHA0G	DO-201AD	500 / Ammo box

Notes:

1. "x" defines voltage from 200V (MUR4L20) to 600V (MUR4L60)
2. “H” means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

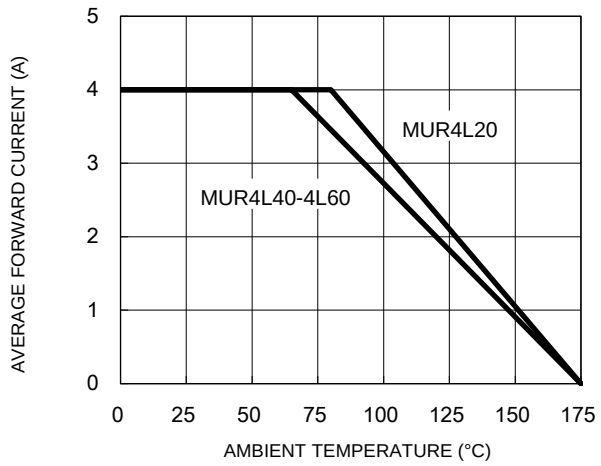


Fig.2 Typical Junction Capacitance

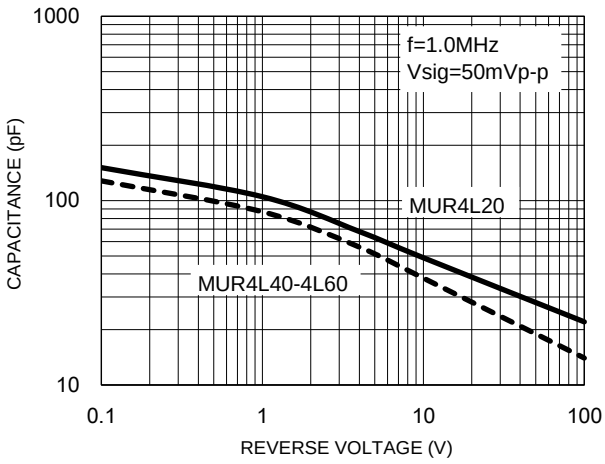


Fig.3 Typical Reverse Characteristics

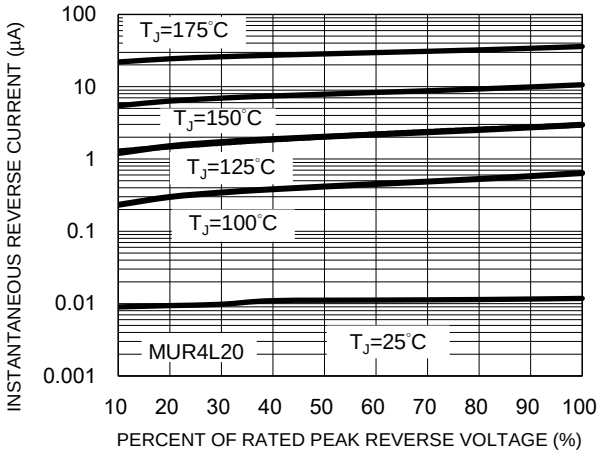


Fig.4 Typical Forward Characteristics

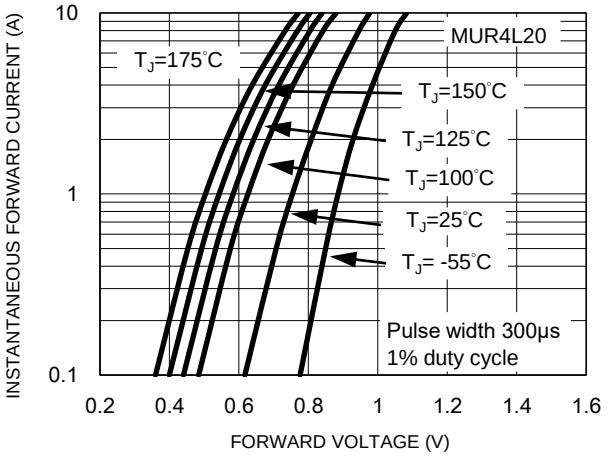


Fig.5 Typical Reverse Characteristics

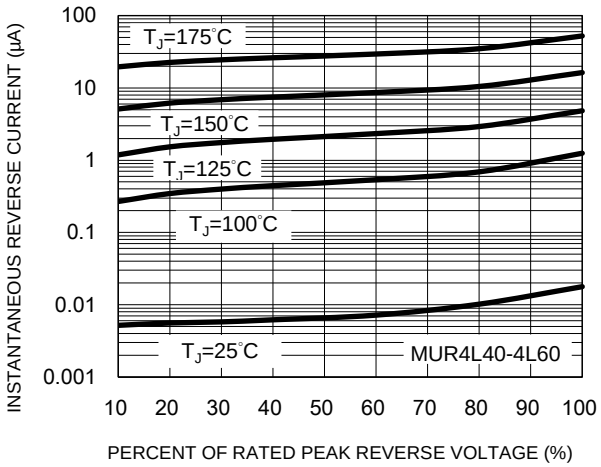
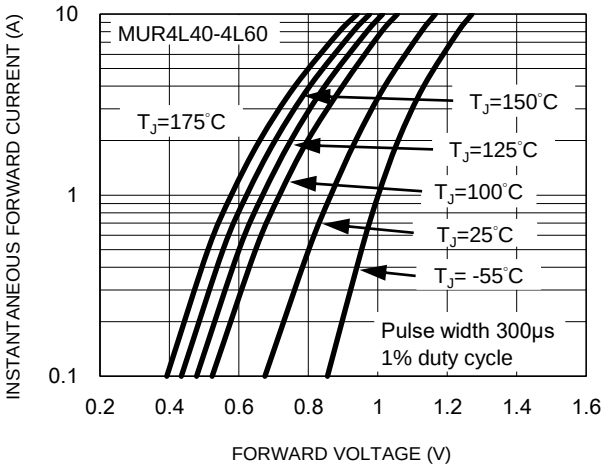


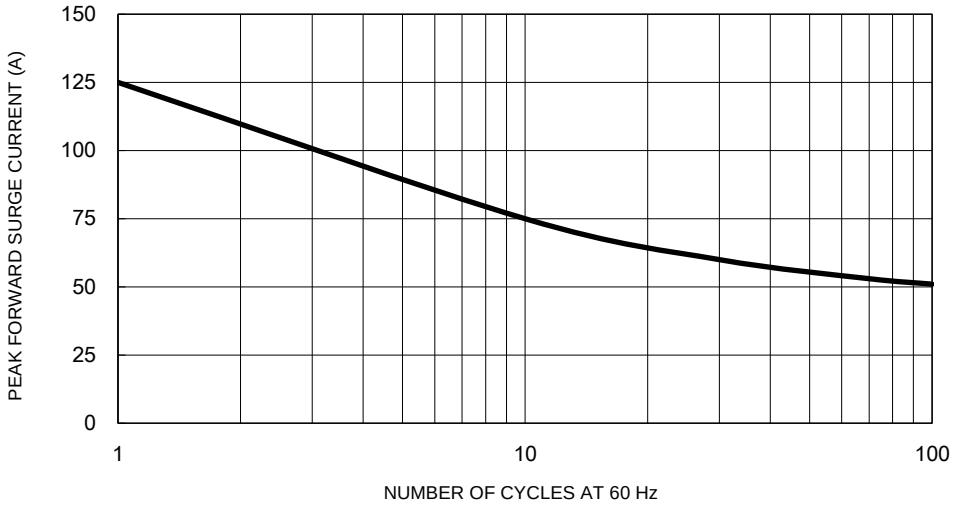
Fig.6 Typical Forward Characteristics



CHARACTERISTICS CURVES

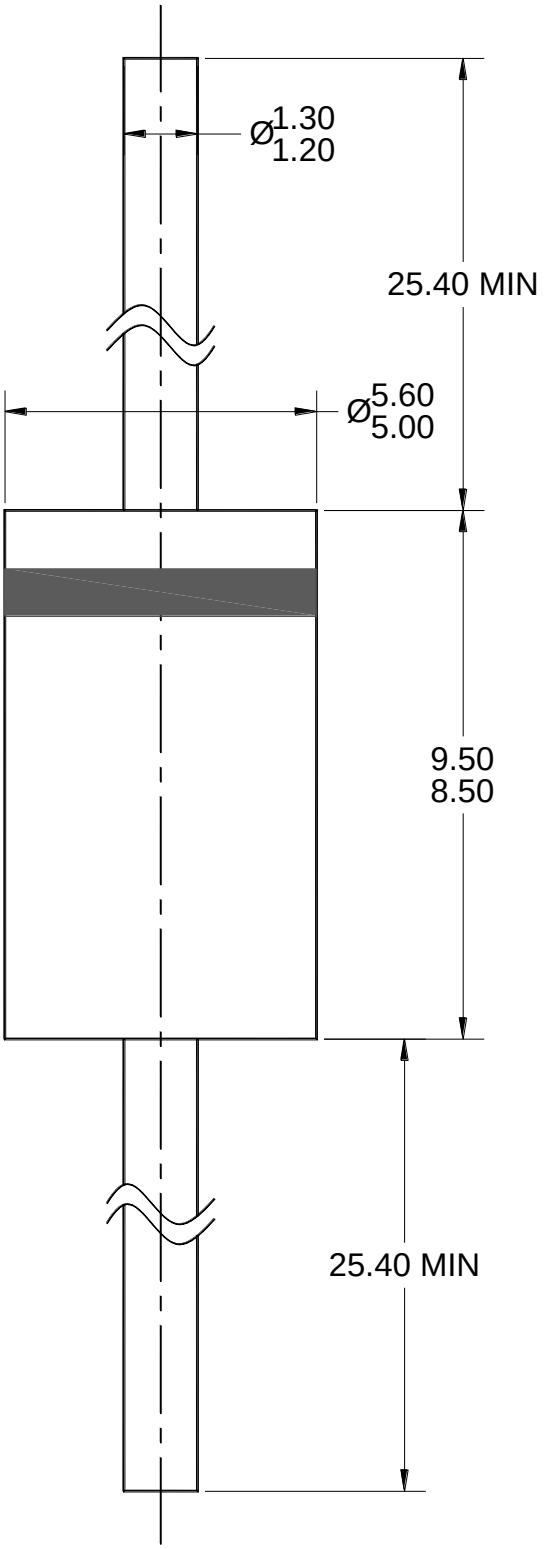
(T_A = 25°C unless otherwise noted)

Fig.7 Maximum Non-Repetitive Forward Surge Current



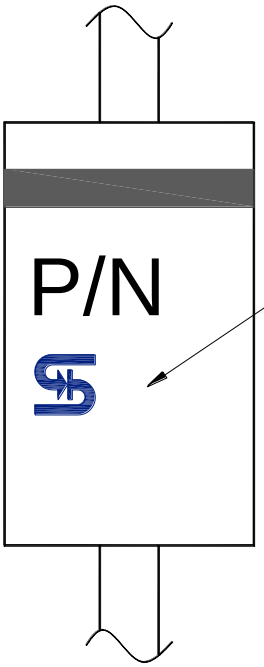
PACKAGE OUTLINE DIMENSIONS

DO-201AD



NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: JEDEC DO-201 VARIATION AD, ISSUE B.
4. DWG NO. REF: HQ2SD07-DO201AD-079 REV A.



P/N = MARKING CODE
G = GREEN COMPOUND
YWW = DATE CODE
F = FACTORY CODE

MARKING DIAGRAM

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