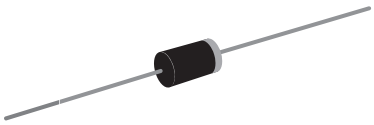
Ultrafast Plastic Rectifier



DO-204AC (DO-15)

FEATURES

- Glass passivated chip junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS COMPLIANT

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
V_{RRM}	200 V
I_{FSM}	35 A
t_{rr}	25 ns
V_F	0.710 V
T_J max.	175 °C

TYPICAL APPLICATIONS

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.

MECHANICAL DATA

Case: DO-204AC (DO-15)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	MUR120	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	200	V
Working peak reverse voltage	V_{RWM}	200	V
Maximum DC blocking voltage	V_{DC}	200	V
Maximum average forward rectified current at T_A = 130 °C	$I_{F(AV)}$	1.0	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	35	A
Operating and storage temperature range	T_J, T_{STG}	- 65 to + 175	°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)					
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**MUR120**	**UNIT**
Maximum instantaneous forward voltage (1)	1.0 A	T_J = 25 °C T_J = 150 °C	V_F	0.875 0.710	V
Maximum instantaneous reverse current at rated DC blocking voltage (1)		T_J = 25 °C T_J = 150 °C	I_R	2.0 50	µA
Maximum reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	25	ns
Maximum reverse recovery time	I_F = 1.0 A, dI/dt = 50 A/µs, V_R = 30 V, I_{rr} = 10 % I_{RM}		t_{rr}	35	ns
Maximum forward recovery time	I_F = 1.0 A, dI/dt = 100 A/µs, I_{rec} to 1.0 V		t_{fr}	25	ns

Note:

(1) Pulse test: t_p = 300 µs pulse, duty cycle ≤ 2 %

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**MUR120**	**UNIT**
Typical thermal resistance junction to ambient (1)	$R_{\theta JA}$	27	°C/W

Note:

(1) Lead length = 3/8" on P.C. Board with 1.5" x 1.5" copper surface

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
MUR120-E3/54	0.41	54	4000	13" diameter paper tape and reel
MUR120-E3/73	0.41	73	2000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

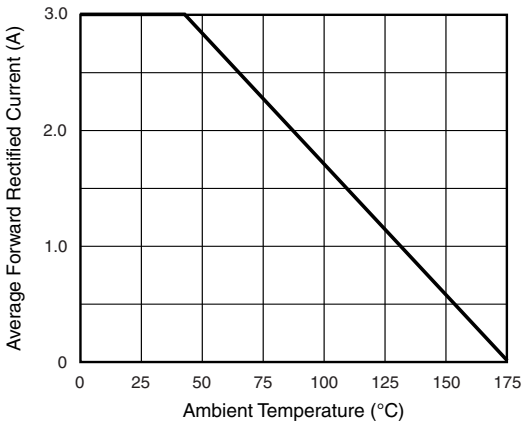


Figure 1. Forward Current Derating Curve

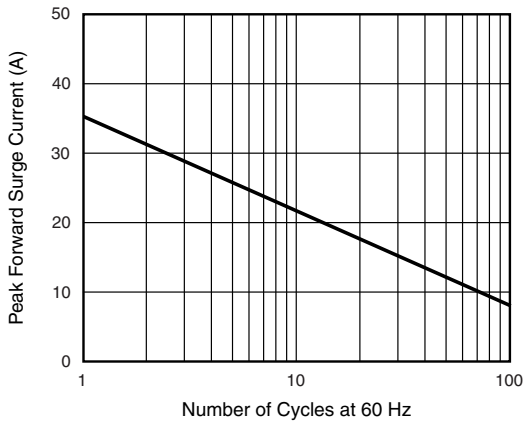


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

For technical questions within your region, please contact one of the following:
PDD-Americas@vishay.com, PDD-Asia@vishay.com, PDD-Europe@vishay.com

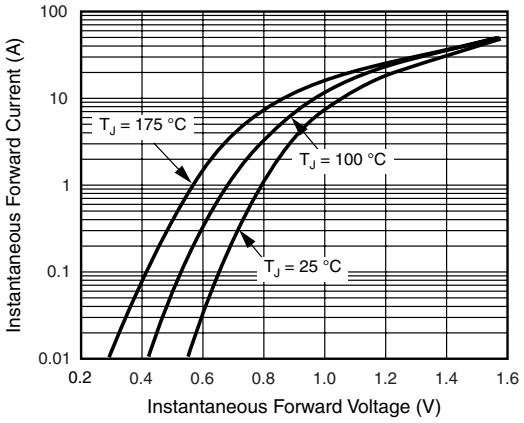


Figure 3. Typical Instantaneous Forward Characteristics

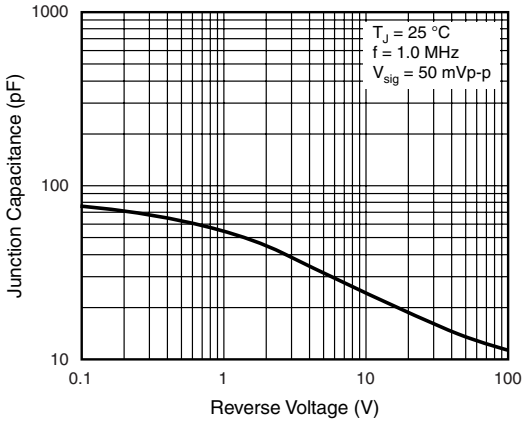


Figure 5. Typical Junction Capacitance

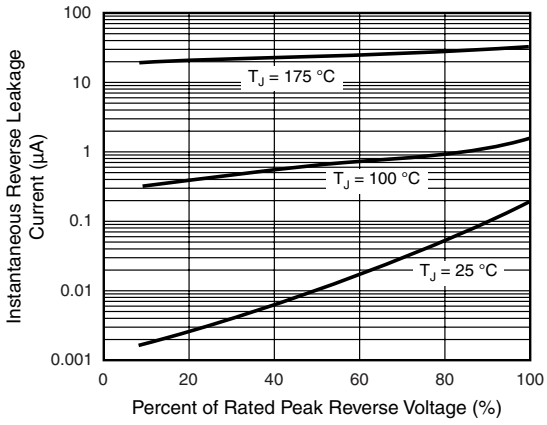
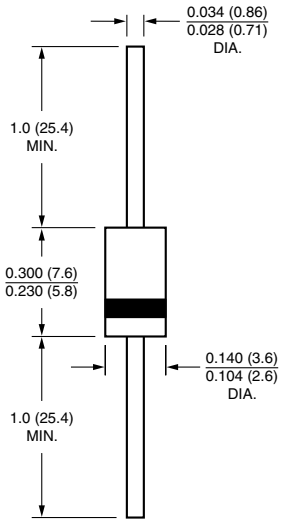


Figure 4. Typical Reverse Leakage Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)



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