

# MURS3JB-TP Datasheet

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DiGi Electronics Part Number	MURS3JB-TP-DG
Manufacturer	<a href="#">Micro Commercial Co</a>
Manufacturer Product Number	MURS3JB-TP
Description	DIODE GEN PURP 600V 3A DO214AA
Detailed Description	Diode 600 V 3A Surface Mount DO-214AA (SMB)

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## Purchase and inquiry

Manufacturer Product Number:

MURS3JB-TP

Series:

-

Technology:

Standard

Current - Average Rectified (Io):

3A

Speed:

Fast Recovery =< 500ns, > 200mA (Io)

Current - Reverse Leakage @ Vr:

10  $\mu$ A @ 600 V

Mounting Type:

Surface Mount

Supplier Device Package:

DO-214AA (SMB)

Base Product Number:

MURS3

Manufacturer:

Micro Commercial Co

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

600 V

Voltage - Forward (Vf) (Max) @ If:

1.25 V @ 3 A

Reverse Recovery Time (trr):

50 ns

Capacitance @ Vr, F:

-

Package / Case:

DO-214AA, SMB

Operating Temperature - Junction:

-55°C ~ 150°C

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

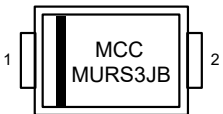

## Features

- Glass Passivated Junction
- Lead Free Finish/RoHS Compliant (Note 1)("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 2)
- Moisture Sensitivity Level 1

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	600	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{RMS}$	420	V
Average Rectified Forward Current @ $T_L=85^\circ\text{C}$	$I_{F(AV)}$	3	A
Non-Repetitive Peak Surge Current @8.3ms Half Sine Wave	$I_{FSM}$	100	A
Non-Repetitive Peak Surge Current @1ms Square Wave		200	
Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$	$I^2t$	41.5	$\text{A}^2\text{s}$

## Internal Structure

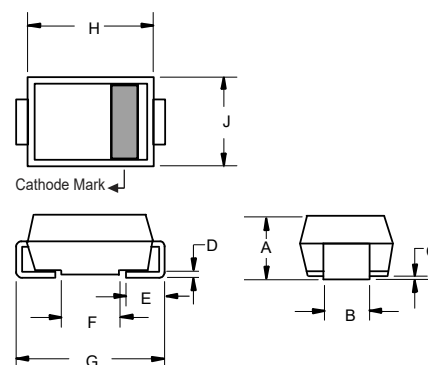
Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode		

Note:

1. High temperature solder exemption applied, see EU directive annex 7a.
2. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

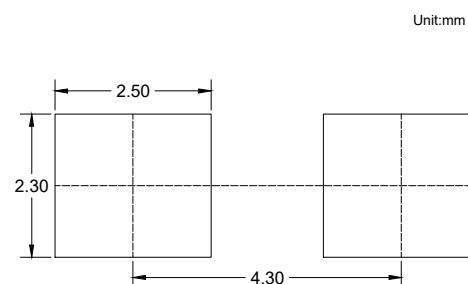
# 3 Amp Super Fast Recovery Rectifier 600 Volts

## SMB (DO-214AA)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.075	0.087	1.91	2.21	
C	0.002	0.008	0.05	0.20	
D	0.006	0.012	0.15	0.31	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.200	0.220	5.08	5.59	
H	0.160	0.191	4.06	4.85	
J	0.130	0.155	3.30	3.94	

## Suggested Solder Pad Layout



## Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$T_J$	Operating Junction Temperature Range		-55		150	°C
$T_{stg}$	Storage Temperature Range		-55		150	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		20		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		75		°C/W

Note:

1. Mounted on P.C.B. with 8mm\*8mm copper pad areas.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=3A; T_J=25^\circ C$			1.25	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^\circ C$ at Rated $V_R; T_J=125^\circ C$			5 50	$\mu A$
Junction Capacitance	$C_J$	$V_R=4V; f=1MHz; T_J=25^\circ C$		50		pF

## Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Recovery Time	$t_{rr}$	$I_F=0.5A; I_R=1.0A; I_{RR}=0.25A; T_J=25^\circ C$			50	ns
		$I_F=1A, di/dt=-50A/\mu s, V_R=30V; T_J=25^\circ C$		48		
		$T_J=25^\circ C$		47		
		$T_J=125^\circ C$		71		
Peak Recovery Current	$I_{RRM}$	$I_F=3A$ $di/dt=-200A/\mu s$ $V_R=400V$	$T_J=25^\circ C$		5.9	A
			$T_J=125^\circ C$		9.0	
Reverse Recovery Charge	$Q_{rr}$		$T_J=25^\circ C$		138	nC
			$T_J=125^\circ C$		319	

### Curve Characteristics

Fig. 1 - Forward Current Derating Curve

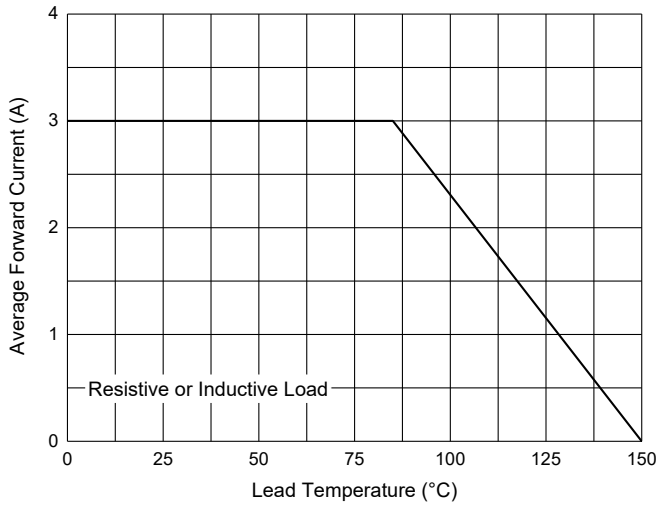


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

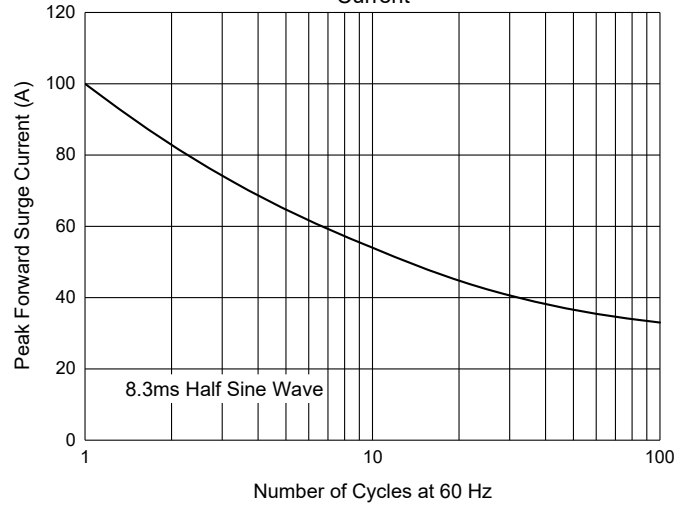


Fig. 3 - Typical Instantaneous Forward Characteristics

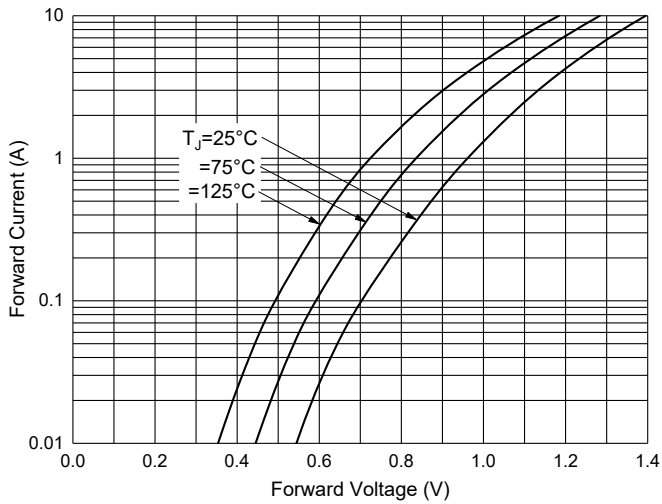


Fig. 4 - Typical Reverse Leakage Characteristics

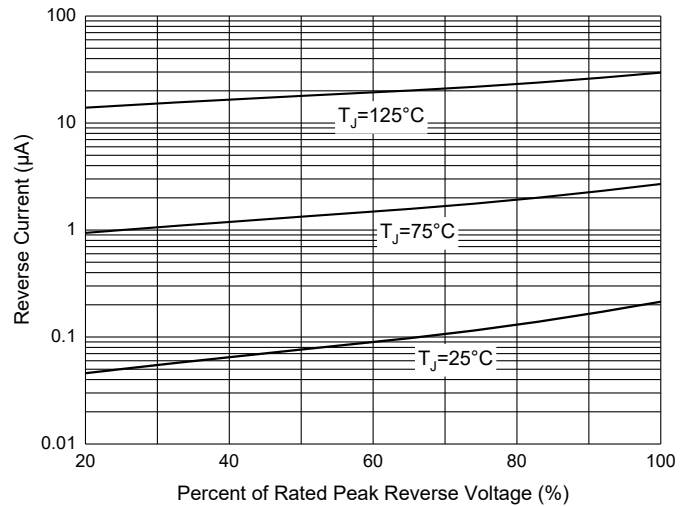
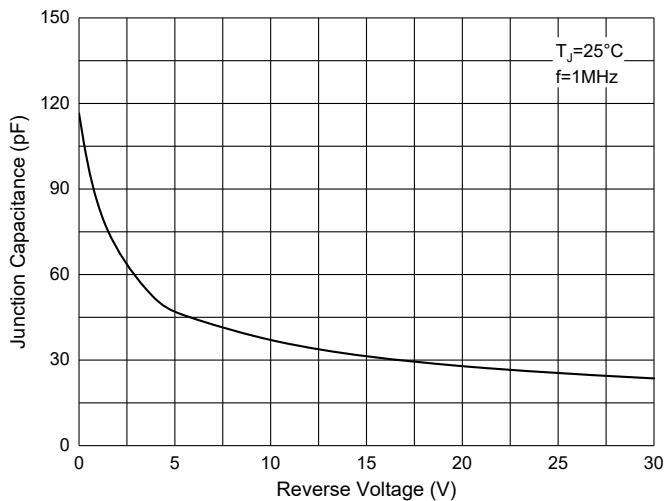


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

Device	Packing
MURS3JB-TP	Tape&Reel:3Kpcs/Reel

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