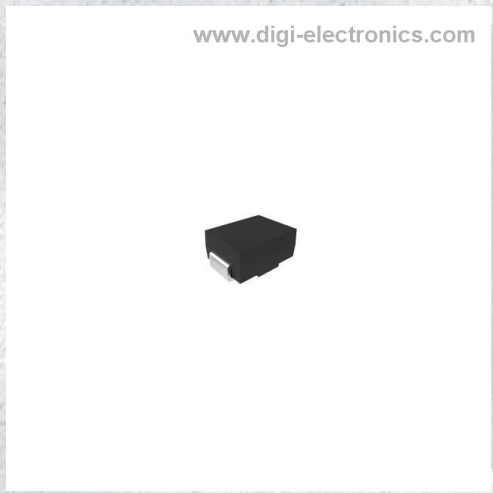
MURS3JB-TP Datasheet



DiGi Electronics Part Number	MURS3JB-TP-DG
Manufacturer	Micro Commercial Co
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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Manufacturer Product Number:	Manufacturer:
MURS3JB-TP	Micro Commercial Co
Series:	Product Status:
-	Active
Technology:	Voltage - DC Reverse (Vr) (Max):
Standard	600 V
Current - Average Rectified (Io):	Voltage - Forward (Vf) (Max) @ If:
3A	1.25 V @ 3 A
Speed:	Reverse Recovery Time (trr):
Fast Recovery =< 500ns, > 200mA (Io)	50 ns
Current - Reverse Leakage @ Vr:	Capacitance @ Vr, F:
10 µA @ 600 V	-
Mounting Type:	Package / Case:
Surface Mount	DO-214AA, SMB
Supplier Device Package:	Operating Temperature - Junction:
DO-214AA (SMB)	-55°C ~ 150°C
Base Product Number:	
MURS3	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.10.0080	

MURS3JB

Features

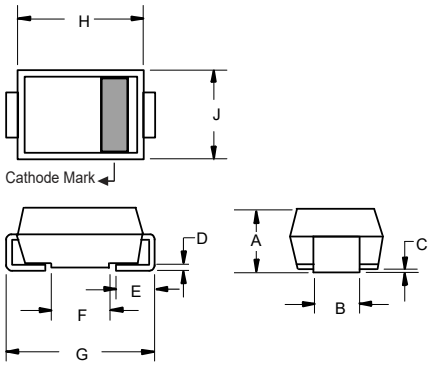
- Glass Passivated Junction
- Lead Free Finish/RoHS Compliant (Note 1)("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 2)
- Moisture Sensitivity Level 1

3 Amp Super Fast Recovery Rectifier 600 Volts

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°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 @ 1ms≤t≤8.3ms	I^2t	41.5	A^2s

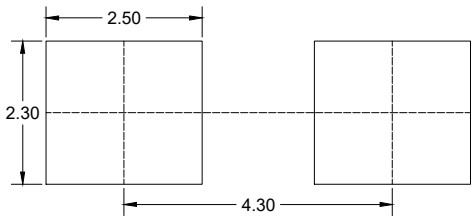
SMB (DO-214AA)



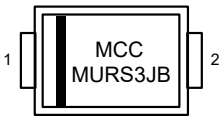
DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.075	0.087	1.91	2.21	
C	0.002	0.008	0.05	0.20	
D	0.006	0.012	0.15	0.31	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.200	0.220	5.08	5.59	
H	0.160	0.191	4.06	4.85	
J	0.130	0.155	3.30	3.94	

Suggested Solder Pad Layout

Unit:mm



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.

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
$Rth_{(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		20		°C/W
$Rth_{(J-A)}$	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°C			1.25	V
Reverse Current	I_R	at Rated V_R;T_J=25°C at Rated V_R;T_J=125°C			5 50	μA
Junction Capacitance	C_J	V_R=4V;f=1MHz;T_J=25°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°C				50	ns
		I_F=1A,di/dt=-50A/us,V_R=30V;T_J=25°C			48		
		I_F=3A di/dt=-200A/μs V_R=400 V	T_J=25°C		47		
			T_J=125°C		71		
Peak Recovery Current	I_{RRM}		T_J=25°C		5.9		A
			T_J=125°C		9.0		
Reverse Recovery Charge	Q_{rr}		T_J=25°C		138		nC
			T_J=125°C		319		

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

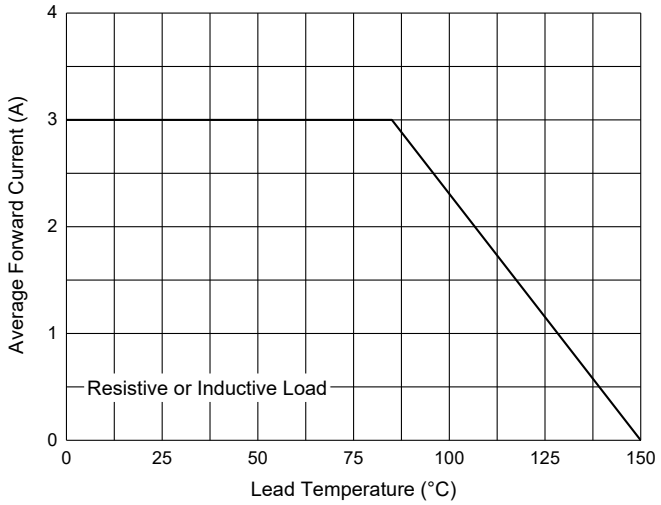


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

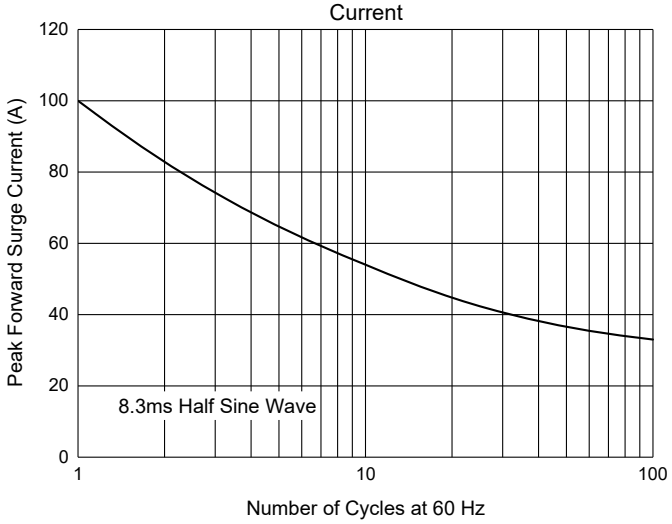


Fig. 3 - Typical Instantaneous Forward Characteristics

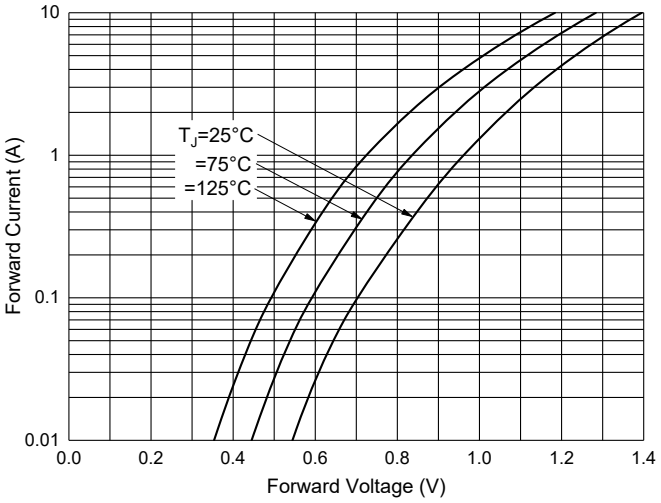


Fig. 4 - Typical Reverse Leakage Characteristics

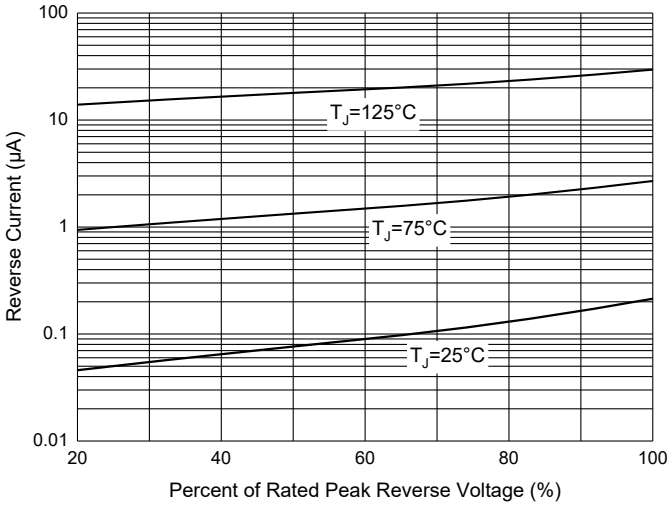
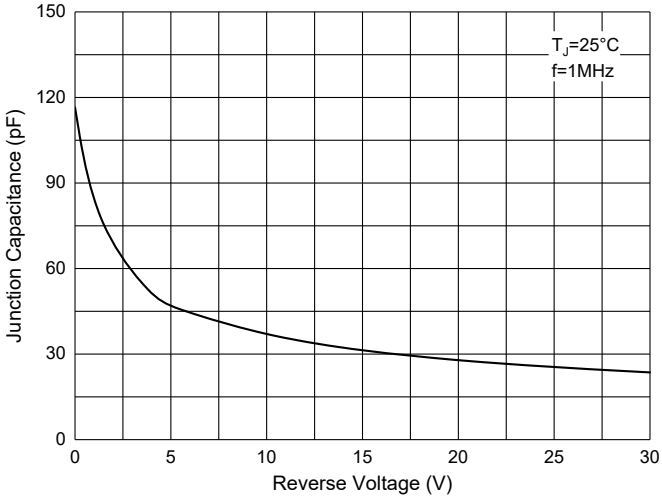


Fig. 5 - Typical Capacitance Characteristics



Ordering Information

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

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