

FEATURES

- Very Low Capacitance
- Low Forward Voltage



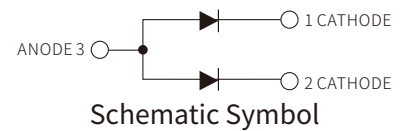
SOT-23

MECHANICAL DATA

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any



Marking



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit	
Continuous Reverse Voltage	V_R	7	V	
Total Device Dissipation FR-5 Board ⁽¹⁾	P_d	$T_A=25^{\circ}\text{C}$	225	mW
		Derate above 25°C	1.8	mW/°C
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	556	°C/W	
Total Device Dissipation Alumina Substrate ⁽²⁾	P_d	$T_A=25^{\circ}\text{C}$	300	mW
		Derate above 25°C	2.4	mW/°C
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	417	°C/W	
Operating Junction Temperature	T_J	150	°C	
Storage Temperature Range	T_{stg}	-55 to +150	°C	

Note1: FR-5=1.0*0.75*0.062 in.

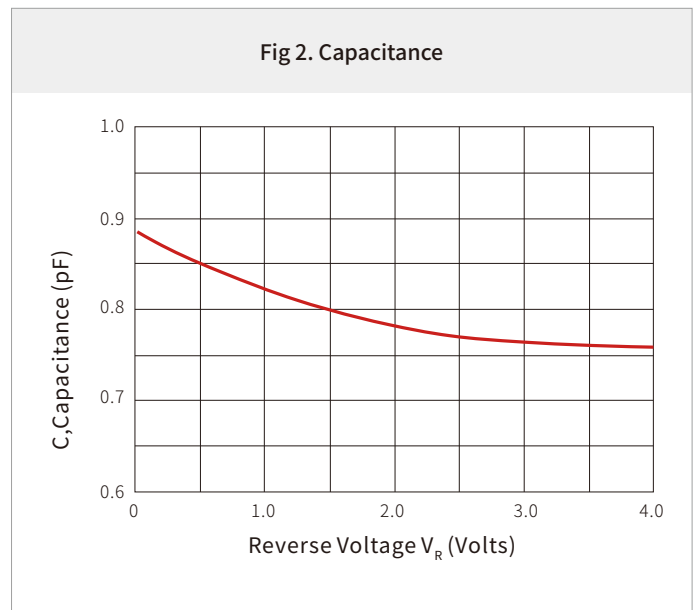
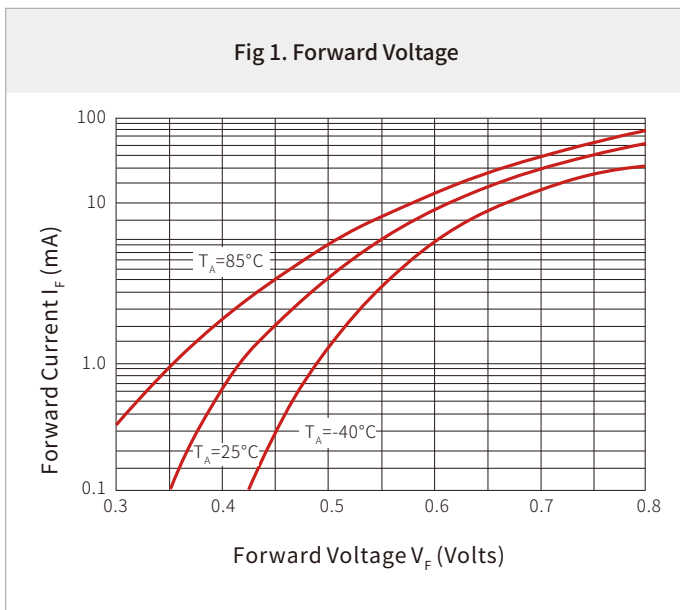
Note2: Alumina=0.4*0.3*0.024 in. 99.5% alumina.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

Parameter	Test Condition	Symbol	Min.	Max.	Unit
Forward Voltage	$I_F = 10\text{mA}$	V_F		0.6	V
Reverse Leakage Current ⁽³⁾	$V_R = 3\text{V}$	I_R		0.25	μA
	$V_R = 7\text{V}$			10	
Total Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_{tot}		1.0	pF

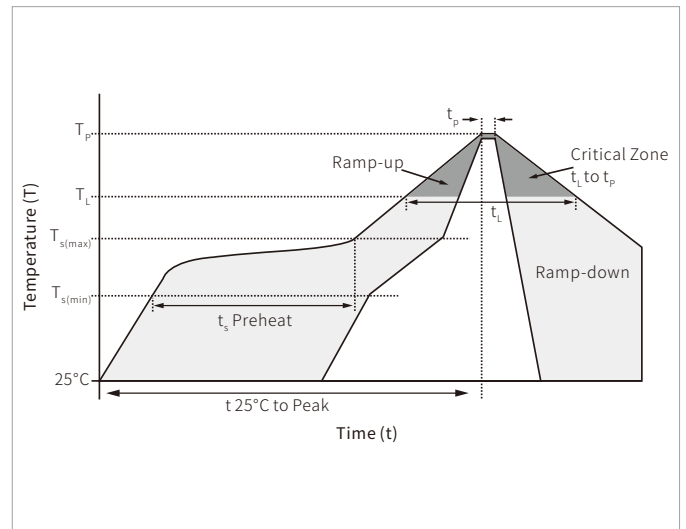
Note3: For each individual diode while the second diode is unbiased

CHARACTERISTIC CURVES

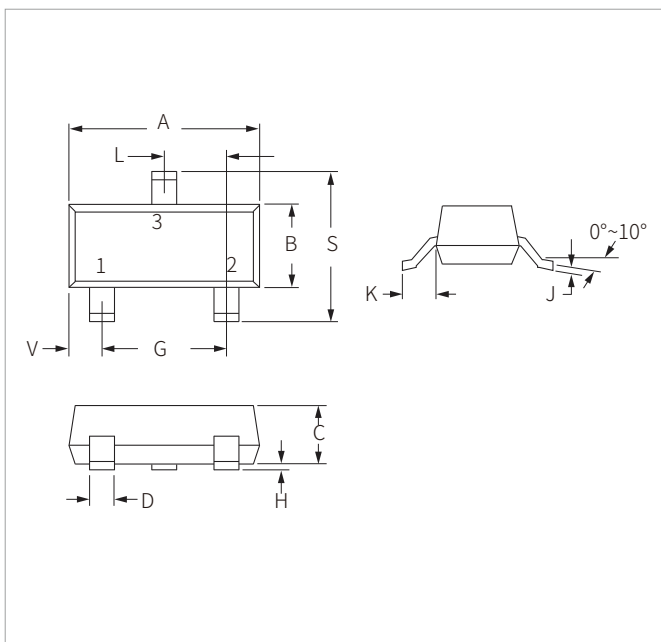


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_r)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

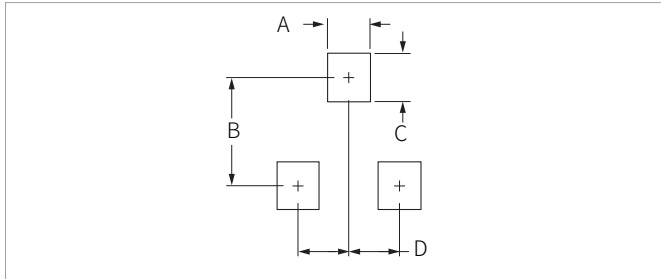


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.05	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.90	1.15	0.035	0.045
D	0.37	0.50	0.015	0.020
G	1.75	2.05	0.069	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.65	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MMBD355	SOT-23	3000PCS	7"

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