DFR1A THRU DFR1M

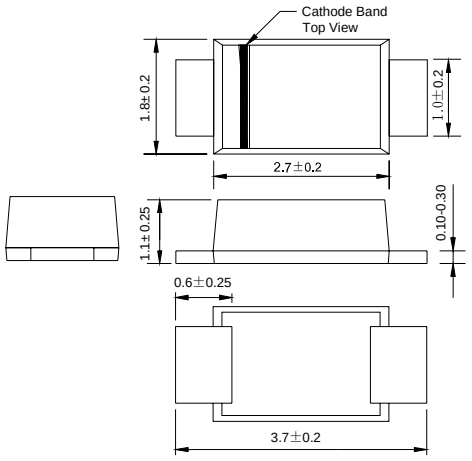
1.0A Surface Mount Fast Recovery Rectifiers-50-1000V

Features

- Glass passivated device
- Ideal for surface mouted applications
- Low reverse leakage
- Metallurgically bonded construction
- High temperature soldering guaranteed: 250℃/10 seconds,0.375”(9.5mm) lead length, 5 lbs. (2.3kg) tension
- Compliant to RoHS Directive 2011/65/EU
- Compliant to Halogen-free

Package outline

SOD-123



Dimensions in millimeters

Mechanical data

- **Case**: JEDEC SOD-123 molded plastic body over passivated chip
- **Terminals**: Plated axial leads, solderable per MIL-STD-750, Method 2026
- **Polarity**: Color band denotes cathode end
- **Mounting Position**: Any
- **Weight**: 0.0007 ounce, 0.02 grams

Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_O			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			25	A
Reverse current	V_R = V_{RRM} T_A = 25°C	I_R			5.0	μA
	V_R = V_{RRM} T_A = 100°C				50	
Thermal resistance	Junction to ambient NOTE 1	$R_{\theta JA}$		50		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		15		pF
Storage temperature		T_{STG}	-65		+150	°C

SYMBOLS	V_{RRM} *1 (V)	V_{RMS} *2 (V)	V_R *3 (V)	V_F *4 (V)	t_{rr} *5 (ns)	Operating temperature T_J, (°C)
DFR1A	50	35	50	1.30	150	-55 to +150
DFR1B	100	70	100			
DFR1D	200	140	200			
DFR1G	400	280	400			
DFR1J	600	420	600		250	
DFR1K	800	560	800		500	
DFR1M	1000	700	1000			

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=1.0A

*5 Maximum Reverse recovery time, note 2

Note: 1.P.C.B. mounted with 0.2x0.2”(5.0x5.0mm) copper pad areas

2. Reverse recovery time test condition, I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

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Rating and characteristic curves (DFR1A THRU DFR1M)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

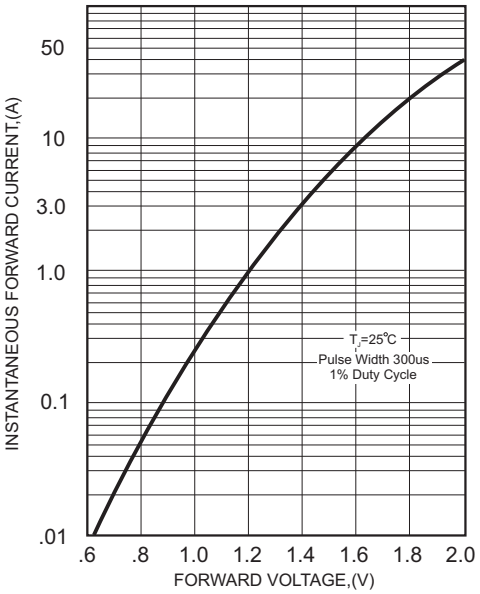


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

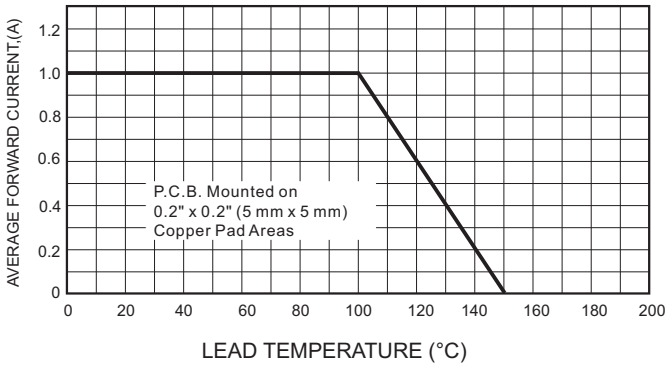
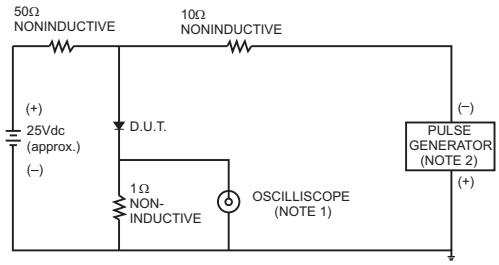
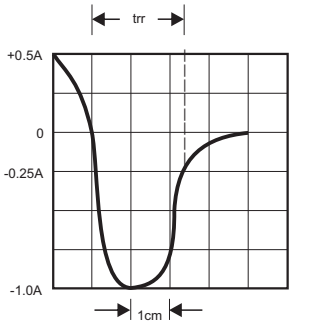


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.



SET TIME BASE FOR 50 / 10ns / cm

FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

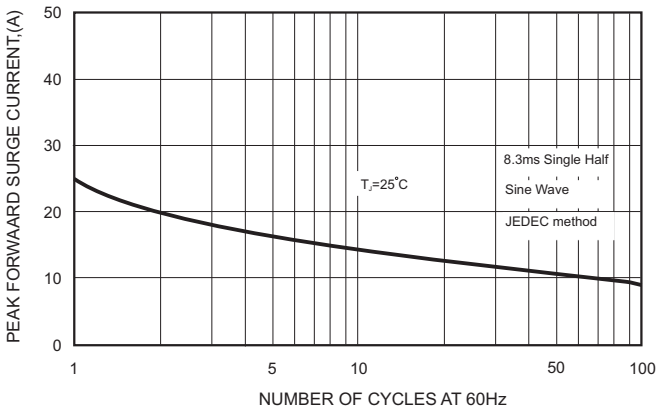
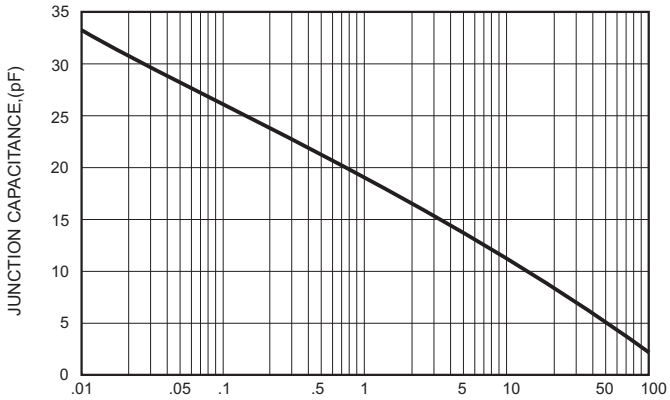


FIG.5-TYPICAL JUNCTION CAPACITANCE



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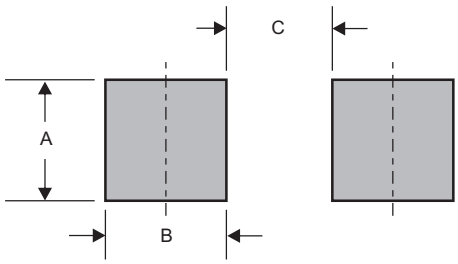
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
DFR1A	F1
DFR1B	F2
DFR1D	F3
DFR1G	F4
DFR1J	F5
DFR1K	F6
DFR1M	F7

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.075 (1.90)	0.055 (1.40)	0.075 (1.90)

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