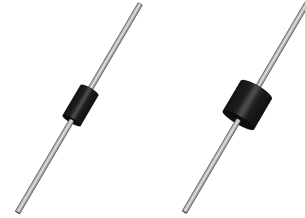


5A,50-1000V Superfast Rectifiers

Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- For general purpose applications
- Moisture sensitivity: level 1, per J-STD-020
- For fast switching and low logic level applications
- High temperature soldering guaranteed: 260°C/10 seconds



R-6/P600

Applications

- Small battery charger, Power supplies

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	SF61	SF62	SF63	SF64	SF65	SF66	SF67	SF68	SF69	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	600	800	1000	V
Maximum average forward rectified current	I _{F(AV)}	6									A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	150									A
Operating junction temperature range	T _J	-55 to +150									°C
Storage temperature range	T _{STG}	-55 to +150									°C

Thermal-Mechanical Specifications (T_A=25°C unless otherwise noted)

Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R _{θJA}	16	°C /W
Thermal Resistance, Junction to Case	R _{θJC}	14	°C /W
Thermal Resistance, Junction to Lead	R _{θJL}	8	°C /W



Electrical Specifications ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	SF61	SF62	SF63	SF64	SF65	SF66	SF67	SF68	SF69	Unit
Forward Drop Voltage	V_F	$I_F=6\text{A}$	0.975				1.30		1.70			V
Reverse leakage current @ V_R	I_R	$T_J=25^{\circ}\text{C}$	5									μA
		$T_J=125^{\circ}\text{C}$	100									
Typical junction capacitance	C_J	4.0 V 1 MHz	115				60					pF
Maximum reverse recovery time	t_{rr}	$I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$	35									nS

Note:

1. Valid provided that leads at a distance of 9.5 mm from case are kept at ambient temperature.

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

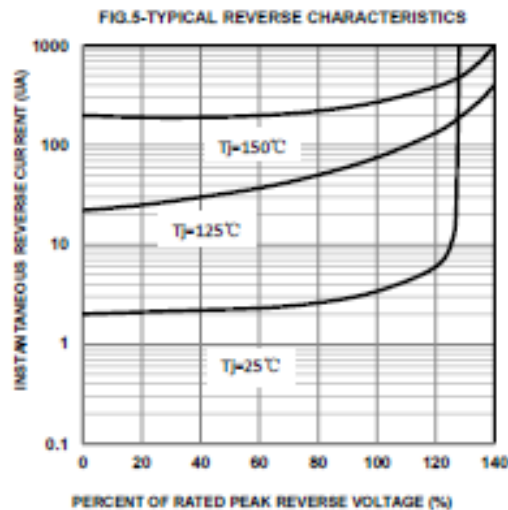
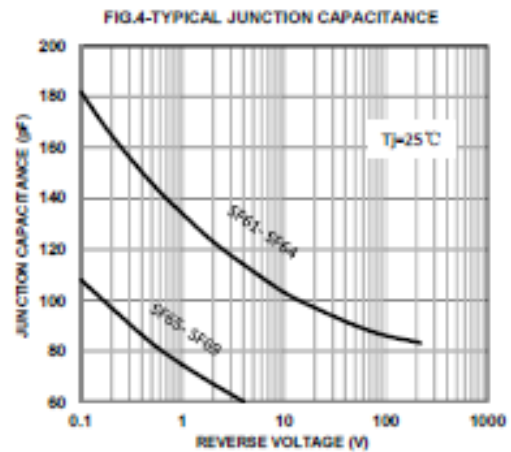
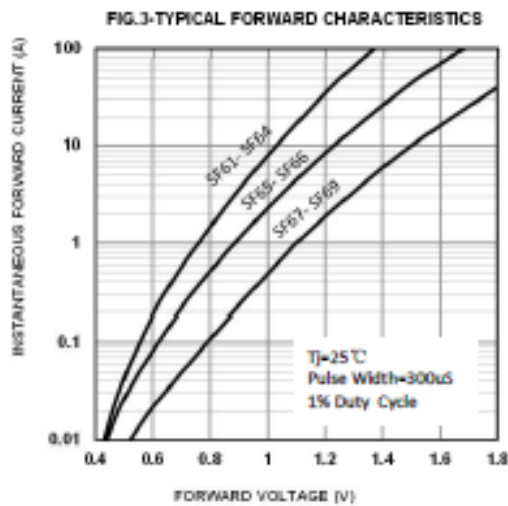
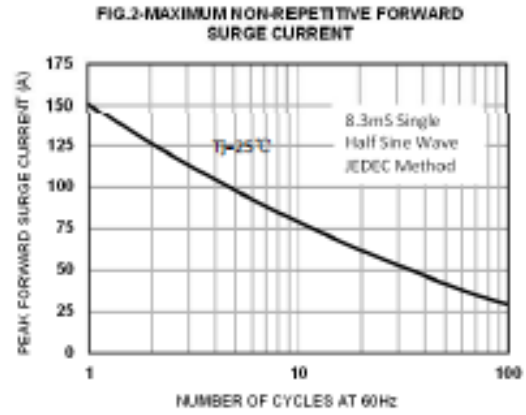
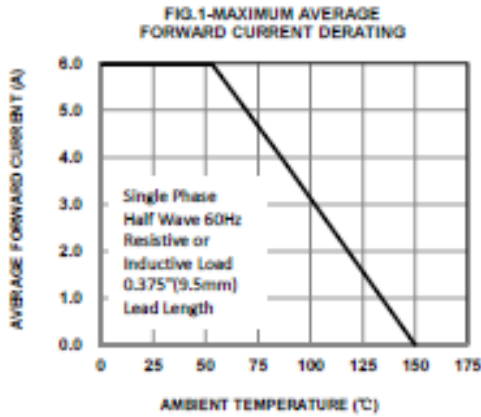
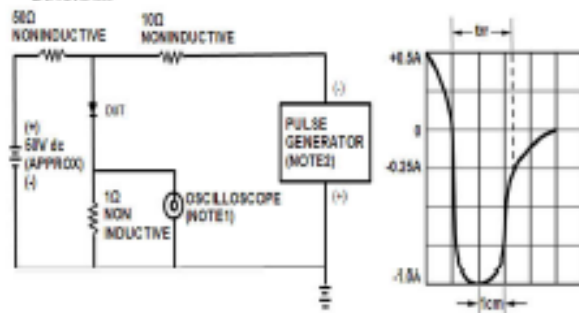


FIG.6 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



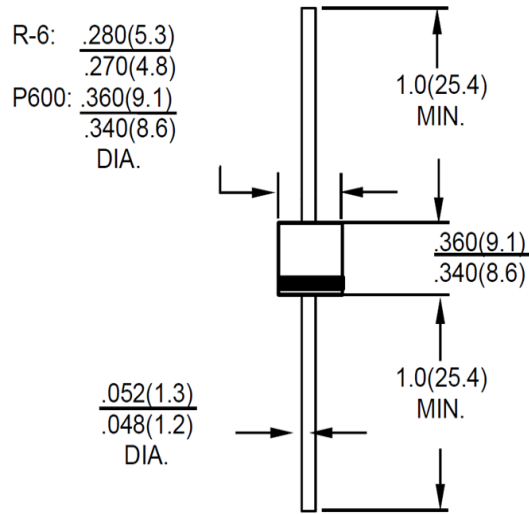
NOTES: 1. Rise Time=7ns max. Input Impedance=1 megohm 22pf
2. Rise Time=10ns max. Source Impedance=50 ohms

SET TIME BASE FOR 5/10ns/cm

Package Outline Dimensions

in inches (millimeters)

R-6/P600



Dimensions in inches and (millimeters)

Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2023.11.13	Modify document format

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