DACO SEMICONDUCTOR CO., LTD.

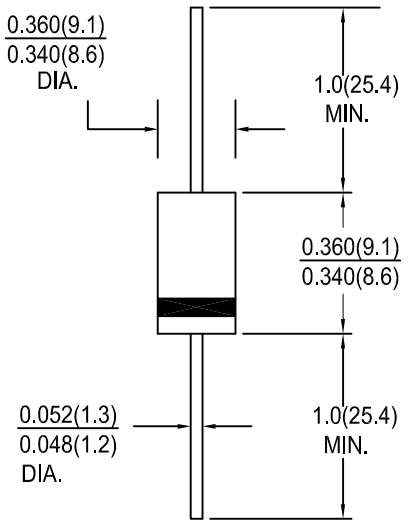
FR601 THRU FR607

FAST RECOVERY SILICON RECTIFIERS

FEATURES:

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability

R-6



Dimensions in inches and (millimeters)

MECHANICAL DATA

Case : Molded plastic
Epoxy : UL 94V-0 rate flame retardant
Lead : Axial leads, solderable per MIL-STD-202,
Method 208 guaranteed
Polarity : Color band on body denotes cathode end
Mounting Position : Any
Weight : 1.65 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25° C ambient temp. unless otherwise specified.
Single phase, half sine wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20 %.

Characteristic	Symbol	FR 601	FR 602	FR 603	FR 604	FR 605	FR 606	FR 607	Units
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current .375"(9.5mm) lead length at Ta=75° C	I_O	6.0							Amps
Peak forward surge current ,8.3ms single half sine-wave superimposed on rated load(JEDEC Method)	I_{FSM}	300.0							Amps
Maximum instantaneous forward voltage drop at 6.0 A	V_F	1.30							Volts
Maximum DC reverse current Ta=25° C at rated DC blocking voltage Ta=100° C	I_R	10.0 200.0							μA
Maximum reverse recovery time (note 1)	trr	150				250	500		nS
Typical junction capacitance (note 2)	Cj	100							pF
Operating junction and storage temperature range	T_j, T_{stg}	-65 to +125			-65 to +150				° C

NOTES:1. Reverse recovery test condition; I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. Measured at 1MHz and Applied reverse voltage of 4.0V $_{DC}$

RATINGS AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CHARACTERISTICS

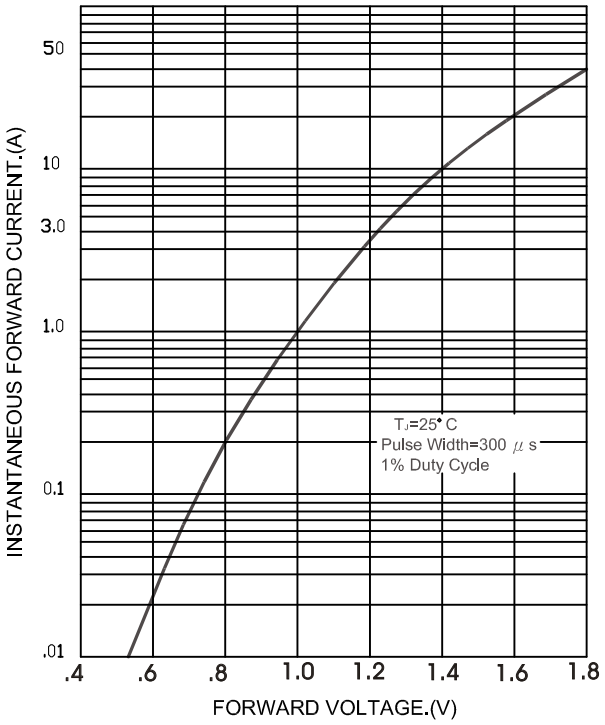


FIG.2 - TYPICAL FORWARD CURRENT DERATING CURVE

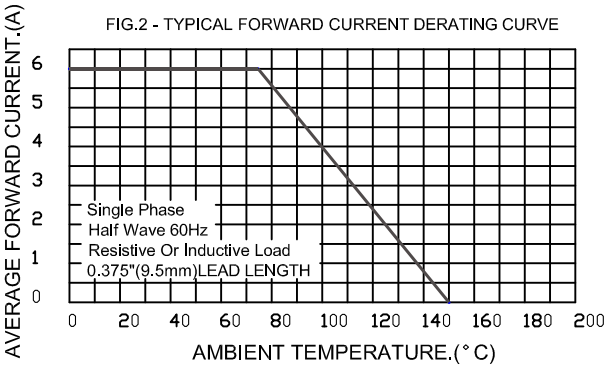


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

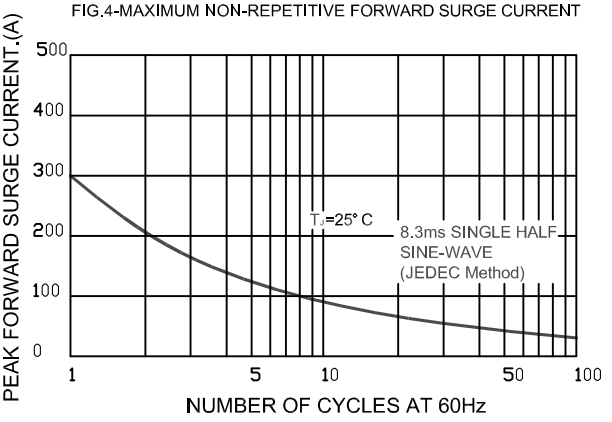
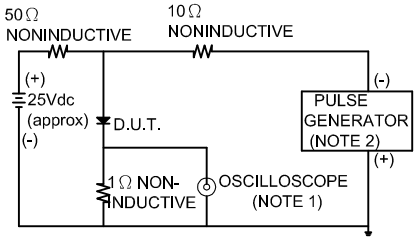


FIG.3-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

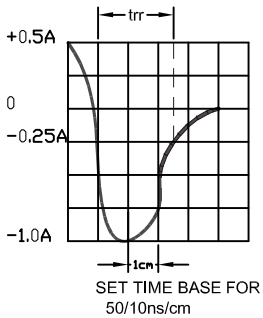
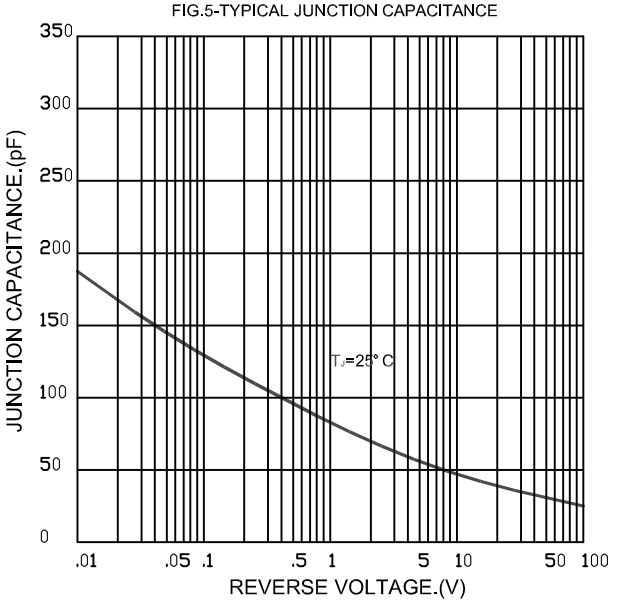


FIG.5-TYPICAL JUNCTION CAPACITANCE



Disclaimer

DACO Semiconductor reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein.

DACO Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does DACO Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.

Purchasers is responsible for its products and applications using DACO Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by DACO Semiconductor. “Typical” parameters which may be provided in DACO Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including “Typicals” must be validated for each customer application by customer’s technical experts.

DACO Semiconductor products are not designed, authorized or warranted to be suitable for use in life support, life-critical or safety-critical systems or equipment, nor in applications where failure or malfunction of DACO Semiconductor’s product can reasonably be expected to result in personal injury, death or severe property or environmental damage. DACO Semiconductor accept no liability for inclusion and/or use of DACO Semiconductor’s products in such equipment or applications and therefore such inclusion and/or use is at the customer’s own risk.

Purchasers buy or use DACO Semiconductor products for any such unintended or unauthorized application, Purchasers shall indemnify and hold DACO Semiconductor and its suppliers and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that DACO Semiconductor was negligent regarding the design or manufacture of the part.