

# RECTIFIERS

## High Efficiency, 20A

SES5701  
SES5702  
SES5703

### FEATURES

- Low Forward Voltage
- Fast Switching
- Low Thermal Resistance
- High Surge Capability
- Mechanically Rugged DO-4 Package
- Reverse Polarity Available

### DESCRIPTION

The SES, super-fast recovery, rectifiers are specifically designed for operation in power switching circuits. Their super-fast recovery time and very low forward voltage drop make them particularly efficient in most switching applications.

### ABSOLUTE MAXIMUM RATINGS

Peak Inverse Voltage, SES5701	50V
Peak Inverse Voltage, SES5702	100V
Peak Inverse Voltage, SES5703	150V
Maximum Average D.C. Output Current at $T_c = 100^\circ\text{C}$	20A
Non-Repetitive Sinusoidal Surge Current 8.3 ms	400A
Thermal Resistance, Junction to Case	1.5 $^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	- 55 $^\circ\text{C}$ to + 175 $^\circ\text{C}$

### ELECTRICAL SPECIFICATIONS

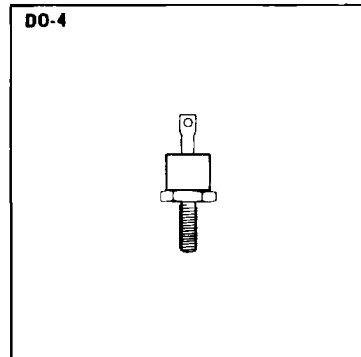
Type	PIV	Maximum Forward Voltage ( $V_F$ ) @		Maximum Reverse Current ( $I_R$ ) @PIV		Maximum Reverse Recovery Time*
			$T_c = 125^\circ\text{C}$		@ $T_c = 125^\circ\text{C}$	
SES5701	50V	.990V	.830			100nS
SES5702	100V	@	@	20 $\mu\text{A}$	4mA	
SES5703	150V	20A	20A			
		$t_p = 300\mu\text{S}$	$t_p = 300\mu\text{S}$			

\*Measured in circuit  $I_F = .5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{REC} = .25\text{A}$

### MECHANICAL SPECIFICATIONS

**SES5701-SES5703**

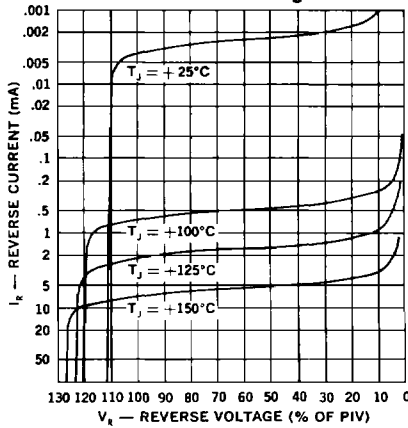
	ins.	mm
A	.078 MAX.	1.98 MAX.
B	$\pm .437 \pm .015$	$11.10 \pm 0.38$
C	.405 MAX.	10.29 MAX.
D	.800 MAX.	20.32 MAX.
E	.424 MAX.	10.77 MAX.
F	.086 MIN. DIA.	1.68 MIN. DIA.
G	$.430 \pm .010$	$10.92 \pm 0.25$
H	.250 MAX.	6.35 MAX.



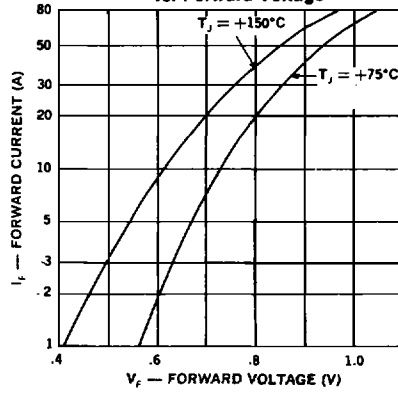
### NOTES:

1. Standard polarity is cathode-to-stud.  
For reverse Polarity (anode-to-stud) add suffix "R", i.e. SES5701R.
2. All metal surfaces tin plated.
3. Maximum unlubricated stud torque: 10 Inch pounds.
4. Angular orientation of terminal is undefined.

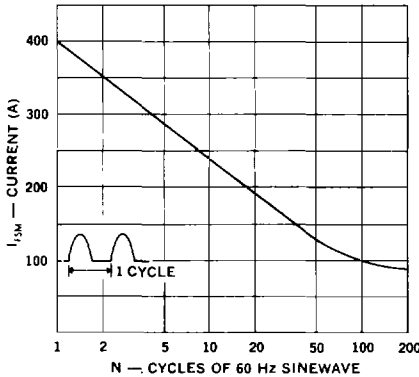
Typical Reverse Current vs. Reverse Voltage



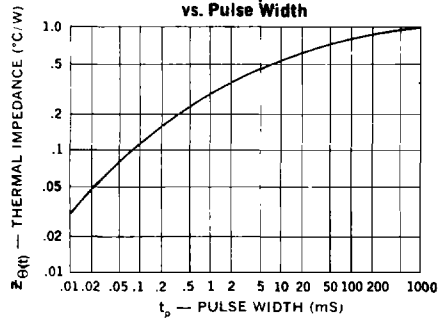
Typical Forward Current vs. Forward Voltage



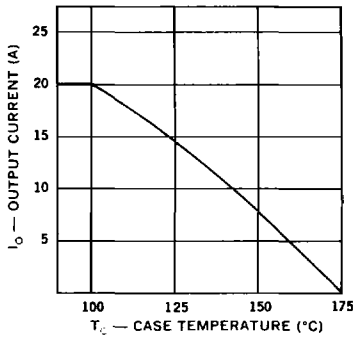
Maximum Forward Surge vs. Number of Cycles



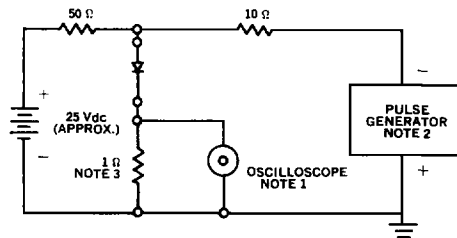
Thermal Impedance vs. Pulse Width



Output Current vs. Case Temperature



Reverse-Recovery Circuit



- NOTES:**
- Oscilloscope: Rise time  $\leq 3\text{nS}$ ; input impedance =  $50\Omega$ .
  - Pulse Generator: Rise time  $\leq 8\text{nS}$ ; source impedance  $10\Omega$ .
  - Current viewing resistor, non-inductive, coaxial recommended.