

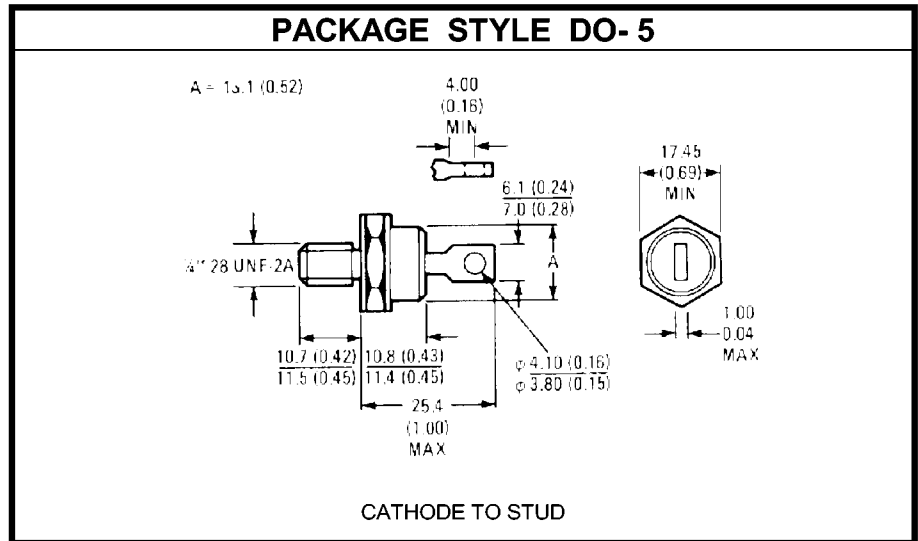
# SILICON RECTIFIER-VERY FAST SWITCHING

## DESCRIPTION:

The **1N5409** is Designed for General Purpose Very Fast Switching Power Supply Applications.

## MAXIMUM RATINGS

|               |                                                                                 |
|---------------|---------------------------------------------------------------------------------|
| $I_o$         | 47 A (RMS) @ $T_C = 25^\circ\text{C}$<br>30 A (AVG) @ $T_C = 100^\circ\text{C}$ |
| $V_{RWM}$     | 175 V                                                                           |
| $T_J$         | $-65^\circ\text{C}$ to $+175^\circ\text{C}$                                     |
| $T_{STG}$     | $-65^\circ\text{C}$ to $+175^\circ\text{C}$                                     |
| $\theta_{JC}$ | $1.5^\circ\text{C/W}$                                                           |



## CHARACTERISTICS $T_C = 25^\circ\text{C}$

| SYMBOL    | TEST CONDITIONS                                                                    | MINIMUM | TYPICAL | MAXIMUM    | UNITS               |
|-----------|------------------------------------------------------------------------------------|---------|---------|------------|---------------------|
| $V_{BR}$  | $I_R = 1.0\text{ mA}$                                                              | 175     |         |            | V                   |
| $I_R$     | $V_R = 150\text{ V}$<br>$T_J = 100^\circ\text{C}$                                  |         |         | 10<br>5.0  | $\mu\text{A}$<br>mA |
| $V_F$     | $I_F = 60\text{ A}$<br>$I_F = 30\text{ A}$<br>$T_J = 100^\circ\text{C}$            |         |         | 1.6<br>1.2 | V                   |
| $t_{rr}$  | $I_F = 1.0\text{ A}$ $V_R = 30\text{ V}$                                           |         |         | 70         | nS                  |
| $I_{FSM}$ | (Non repetitive)    1/2 SINE-WAVE $t = 1.0\text{ mS}$<br>$T_J = 100^\circ\text{C}$ |         |         | 200        | A                   |