## Index of Symbols

| | |
|---|---|
| $C_{tot}$ | Capacitance, diode capacitance |
| $C_L$ | Capacitance of load capacitor |
| f | Frequency |
| $f_{in}$ | Frequency of input voltage |
| $f_{max}$ | Max. frequency of voltage ot be rectified |
| $f_p$ | Pulse frequency |
| $f_O$ | Series resonance frequency |
| $f_{BR}$ | Hum frequency |
| $f_{Q1}$ | Cutoff frequency for Q = 1 |
| G | Smoothing factor |
| h | Altitude above sea level |
| $i_F$ | Instantaneous forward current |
| $i_R$ | Instantaneous reverse current |
| $I_F$ | Forward current |
| $I_{FAV}$ | Average (rectified) forward current |
| $I_{FRM}$ | Repetitive peak forward current |
| $I_{FSM}$ | Surge forward current (non-repetitive) |
| $I_{F(OV)}$ | Overload forward current |
| $I_R$ | Reverse (leakage) current |
| $I_{RM}$ | Reverse pulse current |
| $I_{RMS}$ | RMS current |
| $I_S$ | Switching current |
| $I_Z$ | Zener current (operating current) |
| $I_{ZK}$ | Zener current at breakdown region |
| $I_{ZM}$ | Maximum Zener current |
| $I_{ZS}$ | Surge Zener current |
| $I_{ZT}$ | Zener test current |
| $I_{ZSM}$ | Surge Zener current (non-repetitive) |
| $I_{in}$ | Input current |
| $I_{out}$ | Output current |
| $I_0$ | Average (rectified) forward current |
| $L_s$ | Series inductance |
| P | Power, power dissipation |
| $P_D$ | Continuous power |
| $P_{DC}$ | DC Power ($P_{DC} = V_{DC} \cdot I_{DC}$) |
| $P_F$ | Power, generated by forward voltage and forward current |
| $P_I$ | Pulse power |
| $P_{RSM}$ | Reverse peak power |
| $P_t$ | Power rating of transformer |
| $P_{tot}$ | Total power dissipation |
| Q | Q-Factor, figure of merit |
| $r_f$ | Dynamic forward resistance |
| $r_s$ | Dynamic series resistance |
| $r_{thA}$ | Pulse thermal resistance junction to ambient air |
| $r_{thC}$ | Pulse thermal junction to case or stud |
| $r_{zj}$ | Dynamic resistance in the breakdown region |
| $r_{zth}$ | Thermal differential resistance in the breakdown region |
| $r_{zu}$ | Static differential resistance in the breakdown region |
| $R_d$ | Damping resistance |
| $R_G$ | Generator output resistance |
| $R_L$ | Load resistance |
| $R_S$ | Series resistance |
| $R_p$ | Primary copper resistance of transformer |
| $R_s$ | Secondary copper resistance of transformer |
| $R_t$ | Protective resistance for rectifiers, e.g. transformer equivalent resistance |
| $R_{thA}$ | Thermal resistance junction to ambient air |
| $R_{thC}$ | Thermal resistance junction to case or stud |
| $R_{thS}$ | Thermal resistance heat sink to ambient air |
| S | Stabilization factor, length of edge of a colling fin |
| t | Time |
| $t_{fr}$ | Forward revoery time |
| $t_{on}$ | Switching-on time |
| $t_p$ | Pulse duration |
| $t_{rr}$ | Reverse recovery time |
| $t_{th}$ | Thermal Run-In-Time |
| T | Temperature, duration of a full cycle |
| $T_C$ | Case temperature, stud temperature |
| $T_L$ | Lead temperature |
| $T_S$ | Storge temperature |
| $T_{amb}$ | Ambient temperature |
| $T_j$ | Junction temperature |
| $V_F$ | Instantaneous forward voltage |
| $V_R$ | Instantaneous reverse voltage |
| V | Voltage |
| $V_{BR}$ | Hum Voltage |
| $V_{(BR)R}$ | Reverse breakdown voltage |
| $V_D$ | Positive blocking voltage, diffusion potential |
| $V_{DC}$ | DC voltage |
| $V_F$ | Forward voltage |
| $V_R$ | Reverse voltage, negative blocking voltage |
| $V_{RF}$ | RF voltage |
| $V_{RM}$ | Peak reverse voltage |
| $V_{RMS}$ | RMS voltage |
| $V_{RRM}$ | Repetitive peak reverse voltage |
| $V_{RSM}$ | Surge peak reverse voltage (non-repetitive) |
| $V_S$ | Switching voltge, supply voltage |
| $V_Z$ | Zener voltage |
| $V_{Z0}$ | Zener voltage, extra-polated for $I_Z = 0$ |
| $V_0$ | DC Voltage, half wave rectification |
| $V_{fr}$ | Voltage rise when switching ON (forward recovery) |
| $V_{in}$ | Input Voltage |
| $V_{out}$ | Output Voltage |

| | |
|---|---|
| $Z_{ZK}$ | Zener impedance at $I_{ZK}$ |
| $Z_{ZT}$ | Zener impedance at $I_{ZT}$ |
| $\int i^2dt$ | Load integral |
| $\alpha$ | Angle |
| $\alpha_{IR}$ | Temperature coefficient of leakage current |
| $\alpha_C$ | Temperature coefficient of capacitance |
| $\alpha_{VF}$ | Temperature coefficient of forward voltage |
| $\alpha_{VZ}$ | Temperature coefficient of Zener voltage |
| $\eta_V$ | Rectification efficiency (quotient fo the mean value of the rectified voltage and the peak value of the RF signal voltage) |
| $\Theta$ | Angle of current flow |
| $\nu$ | Ratio of pulse duration to full cycle, duty cycle |
| $\varphi$ | Relative humidity |
| $\omega$ | Angular frequency |