STAMP program 982, 985, 989-90, 992 stand-alone systems 39, 937, 945 inverters 789-90, 883 reliability 956-63 sizing 956-63 standard hydrogen electrode (SHE) 803 standard reporting conditions (SRC) 701-15 standard test conditions (STC) 905, 947, 950, 955 Standard Year 937 Stanford Advanced Back Contact cells 990 STAR 496 starting, lighting, ignition (SLI) battery 809, 834 state of charge (SOC) 809, 849 state-of-charge meters 843 stationary batteries 835 Stefan-Bolzman law 119 step-down converter 885–7, 889 combination with inverters 890 step-down principle, integration into inverting process 892 step-up converter 887-9 Strategic Analysis of Manufacturing Product and Price see STAMP program String Ribbon (STR) 230, 232, 235-7, 239-40, 243, 245, 288 structural façades 1010 structural glazing 1010 sub-array switching controller 869 substitutional impurities 184, 186 substrate texturing 537 summer solstice 907-8 Sun-Earth movement 906-12 Sun–Earth position 910, 912 Sun-tracking surfaces 945-6 sunlight 5, 40 SunPower Corporation 466, 496, 499 - 500sun's rays incidence angle 912 Sun's trajectory maps 939 surface recombination 77, 96–7 surface recombination velocity (SRV) 258-9, 338 Surface Texture and enhanced Absorption with a back Reflector (STAR) cell 321 surface texturing 269 surface to volume relation (SV) 246 Survivable COncentrating Photovoltaic Array (SCOPA) 439 SUrvivable PowER System (SUPER) 439 switching controllers 867-70 Syndicate Bank (India) 1113

synthetic silica 159-60 system cost 980-4 manufacturing-cost modeling 982-3 system-mounting structure 34 system sizing 791-3 Tafel equation 805 Tafel lines 805 tandem cells 134 T-CHEQ 879 experimental set-up 880 operating experience 879 voltages and currents of 16 series-connected cells during charging 880 technical efficiency limit for solar converters 131-2 telecommunications 761-2 autonomous power supply system for 856 Telstar 414 temperature coefficients 423 for module and cell temperature estimation 956 temperature dependence, high-efficiency III-V multijunction solar cells 380-2 temperature determination under considered operating conditions 952 temperature effects on solar cells 104 - 6terminal characteristics 89-92 terrestrial applications 363 terrestrial concentrator systems, implementation of multijunction III-V cells 406-7 terrestrial energy production, high-efficiency III-V multijunction solar cells 363 terrestrial spectrum 407 texturing 269, 273, 539 thermal environment 420-3 thermal modeling of crystallization techniques 245-7 thermionic emission model 537 thermodynamic consistence of Shockley-Queisser photovoltaic cell 126 - 9thermodynamic converters 790 thermodynamic current densities 115, 117 thermodynamic currents 117 thermodynamic efficiency 125 thermodynamic fluxes 119 thermodynamic functions of electrons 119 thermodynamic functions of radiation 117 - 19thermodynamic variables 117-19 thermodynamics background 114-19