List of Symbols

Symbol	*Description*
α	Ratio of the effective density of states between the trap level and the delocalized band edge
a	Lattice Constant
A	Effective Device Area
β	Temperature Dependent Dispersion Parameter
C_i or C_{ox}	Capacitance Density
D_{it}	Interface Trap Density
∂_d	Hansen's parameter signifying dispersive component of the intermolecular forces
∂_p	Hansen's parameter signifying polar component of the intermolecular forces
∂_h	Hansen's parameter signifying hydrogen bonding component of the intermolecular forces
e or q	Electronic Charge
E_b	Polaron Binding Energy
E_t	Trap Density
I_{DS}	Drain Current
I_{photo}	Drain Current under Illuminated State
I_{dark}	Drain Current under Dark State
I_{ON}	Maximum ON-State Current
I_{OFF}	Minimum OFF-State Current
I_F	Integrated Intensity of Entire X ray Diffractogram
$I_{(00l)}$	Integrated Intensity of the (00*l*) Peak
J	Electron Transfer Energy
k	Boltzmann's Constant
L	Length of Transistor Channel
λ	Wavelength of Light Source Used
λ_{peak}	Peak Wavelength in the Emission Spectrum of the Light Source Used
m	Slope of Square-root of Drain Current
μ	Field Effect Mobility
μ_{max}	Maximum Mobility
μ_{sat}	Saturation Mobility
μ_{avg}	Average Mobility
μ_{GB}	Grain boundary mobility
μ_0	Bulk mobility inside the grain
P	Current Modulation
P_{max}	Maximum Current Modulation
P_i	Power of Incident Illumination
$\Phi_{(00l)}$	Integrated Intensity Ratio for a Diffraction Peak Corresponding to (00*l*) Plane
R_S	Mismatch in the Solubility Parameters
R	Photo-responsivity
R_{max}	Maximum Photo-responsivity
R_{bend}	Bending Radius
τ	Relaxation Time
t_{int}	Integration or Illumination Time
t_{sub}	Thickness of the Substrate
T	Absolute Temperature
V_{GS}	Gate to Source Voltage
V_{DS}	Drain to Source Voltage
V_{TH}	Threshold Voltage
V_{TO}	Initial Threshold Voltage
ΔV_T	Shift in Threshold Voltage

$V_{TH,sat}$	Final Threshold Voltage of the Saturated Condition
$\Delta V_{TH,sat}$	Difference in the Threshold Voltages of the Dark and Final Saturated Conditions
$V_{GS,bias}$	Gate to Source Bias applied during Illumination
W	Width of Transistor Channel