

Device Modeling Report

COMPONENTS:
DIODE/ SCHOTTKY RECTIFIER / STANDARD
PART NUMBER: CMS14
MANUFACTURER: TOSHIBA

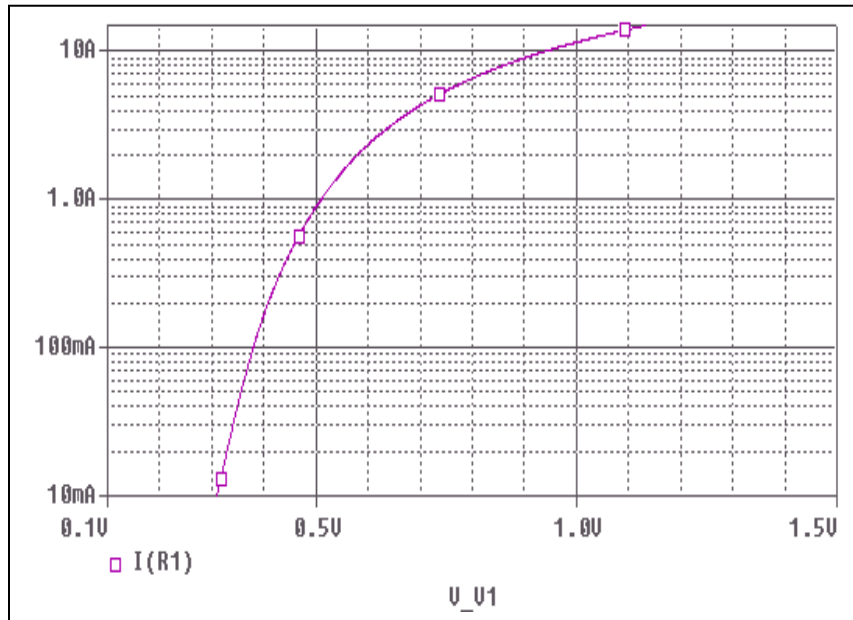


Bee Technologies Inc.

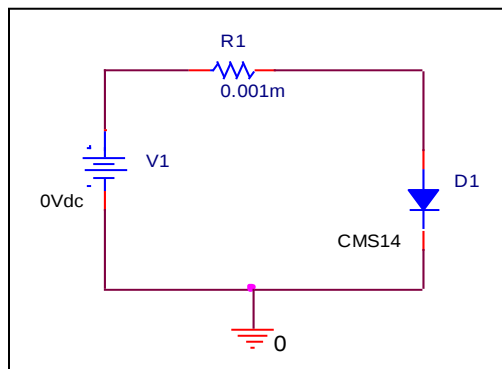
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a positive value)
IBV	Reverse Breakdown Current(a positive value)
TT	Transit Time
EG	Energy-band Gap

Forward Current Characteristic

Circuit Simulation Result

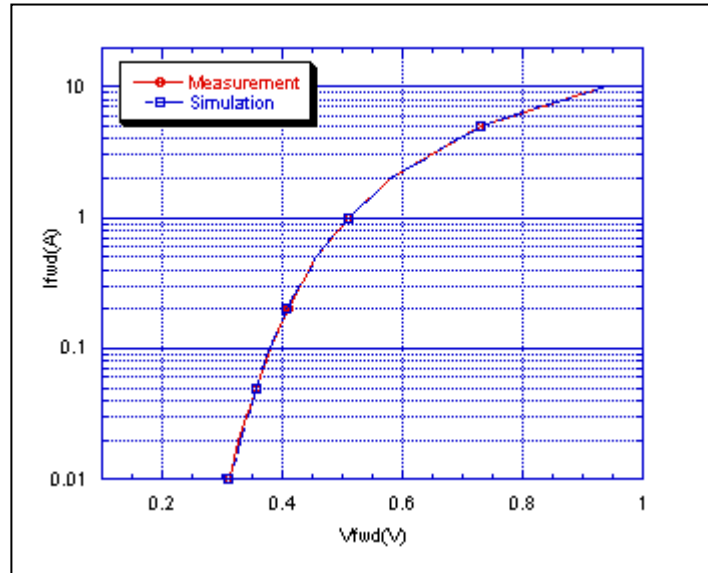


Evaluation Circuit



Comparison Graph

Circuit Simulation Result

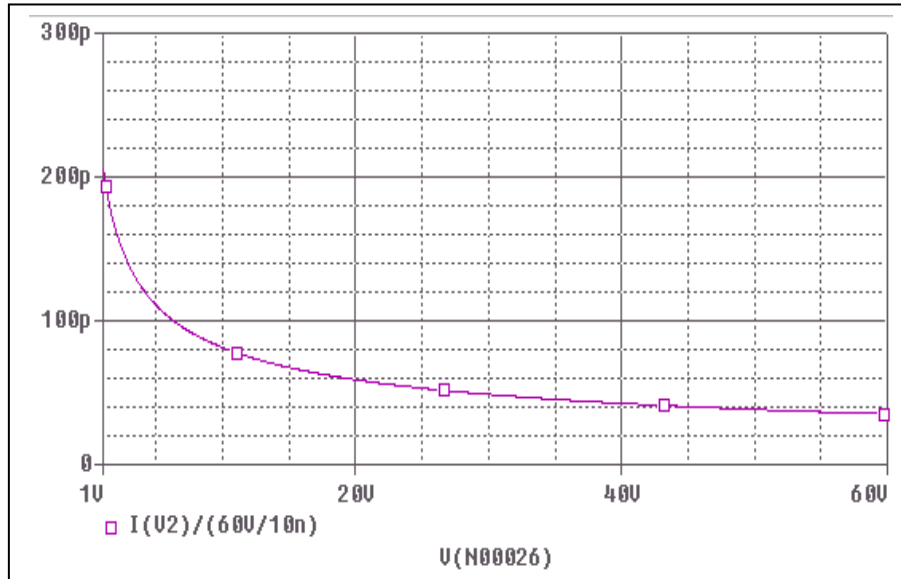


Simulation Result

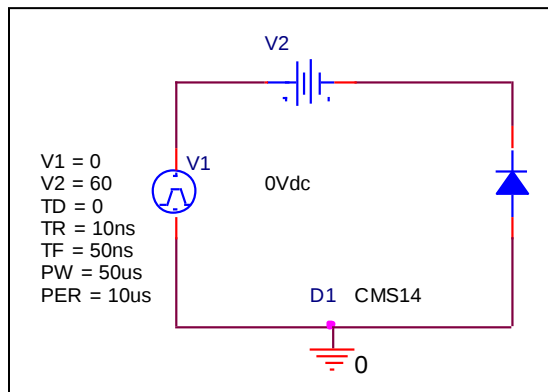
I_{fwd} (A)	V_{fwd} (V) Measurement	V_{fwd} (V) Simulation	%Error
0.01	0.310	0.310	-0.16
0.02	0.327	0.329	0.49
0.05	0.358	0.356	-0.64
0.1	0.380	0.379	-0.21
0.2	0.410	0.408	-0.51
0.5	0.457	0.458	0.28
1	0.510	0.510	-0.04
2	0.580	0.580	-0.05
5	0.730	0.731	0.11
10	0.940	0.940	-0.04

Junction Capacitance Characteristic

Circuit Simulation Result

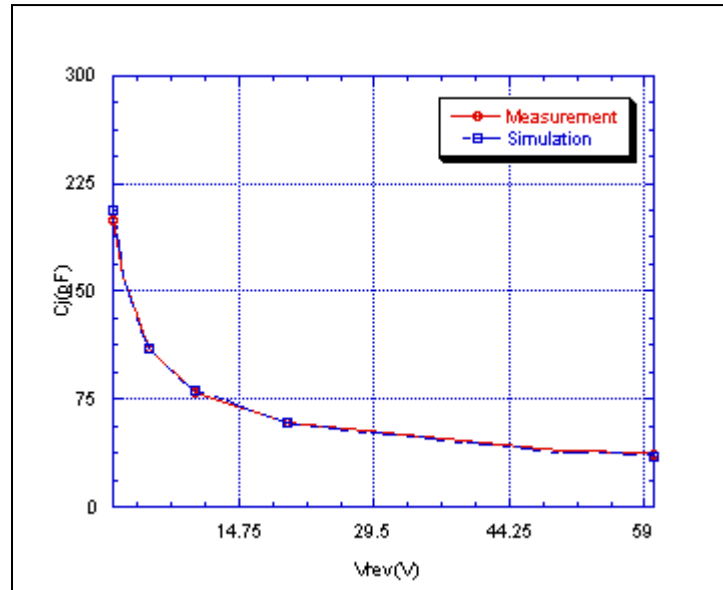


Evaluation Circuit



Comparison Graph

Circuit Simulation Result



Simulation Result

$V_{rev}(V)$	$C_j(pF)$ Measurement	$C_j(pF)$ Simulation	%Error
1	200.00	205.80	2.90
2	160.00	160.80	0.50
5	110.00	110.40	0.36
10	79.70	81.20	1.88
20	58.50	58.90	0.68
50	39.00	38.30	-1.79
60	36.00	35.10	-2.50