

# Surface-Mounted Varactor and Multiplier Devices and Capacitors

ALPHA IND/ SEMICONDUCTOR 48E D ■ 0585443 0001336 280 ■ ALP T-07-A

## High Q Abrupt Tuning Varactors

Outline 434-043<sup>4</sup>

### Ordering Information

Example:

Desired Device Specification

$V_{BR}^3 = 45V$      $C_{T4} = 3.3 pF$

Resultant Type Number SMV1440-11

$C_{T4}(pF)^1$	Suffix Number	SMV1400 30 Volt Series		SMV1440 45 Volt Series		SMV1460 60 Volt Series	
		$C_{T0}/C_{T30}$	$Q_4^2$ 50MHz	$C_{T0}/C_{T45}$	$Q_4^2$ 50MHz	$C_{T0}/C_{T60}$	$Q_4^2$ 50MHz
0.4	01	2.2	5000	2.3	3000		
0.6	02	2.7	5000	2.8	3000		
0.8	03	3.2	4800	3.3	2800	3.8	2100
1.0	04	3.5	4800	3.9	2800	4.3	2100
1.2	05	3.8	4600	4.3	2600	4.6	2100
1.5	07	4.0	4400	4.6	2400	5.1	2000
1.8	08	4.1	4200	4.9	2300	5.4	2000
2.2	09	4.1	4000	5.1	2200	5.6	2000
2.7	10	4.2	3800	5.2	2200	5.8	1900
3.3	11	4.2	3600	5.3	2100	6.0	1800
3.9	13	4.2	3400	5.4	2000	6.2	1700
4.7	14	4.2	3200	5.4	2000	6.4	1600
5.6	15	4.3	3000	5.5	1900	6.6	1500
6.8	16	4.3	2800	5.6	1800	6.7	1400
8.2	17	4.3	2600	5.7	1700	6.8	1300
10	19	4.4	2400	5.8	1600	6.8	1200
12	20	4.4	2200				

### Notes:

1. Capacitance tolerance is  $\pm 10\%$  except  $\pm 20\%$  for 0.4 and 0.6 pF.
2. Q specified  $V_n = 4V$ , 50 MHz equivalent from 1GHz or 100 MHz measurement.
3. Minimum  $V_{BR}$  (Breakdown Voltage) at  $I_n = 10\mu A$ .
4. Dual Diodes are available in 434-013 outline.

# Surface-Mounted Varactor and Multiplier Devices and Capacitors

ALPHA IND/ SEMICONDUCTOR 48E D ■ 0585443 0001337 117 ■ ALP T-07-19

## Step Recovery Diodes

### Outline 434-043<sup>6</sup>

Type Number	V <sub>r</sub> <sup>1</sup> (Volts) Min.	C <sub>j0</sub> <sup>2</sup> (pF)	τ <sup>3</sup> (ns) Min.	T <sub>r</sub> <sup>4</sup> (ps) Max.	θ <sub>th</sub> (°C/Watt) Typ.	F <sub>ca</sub> <sup>5</sup> (GHz) Min.	Typical Input Freq. (GHz)	Typical Output Freq. (GHz)
SMV1411-01 SMV1411-02 SMV1411-03	15 15 15	.25-.50 .50-1.00 1.00-1.50	10 10 10	70 70 70	60 40 30	300 300 300	0.5-3.0	9.0-18.0
SMV1411-04 SMV1411-05 SMV1411-06 SMV1411-07 SMV1411-08	30 30 30 30 30	.25-.50 .50-.75 .75-1.00 1.00-1.25 1.25-1.50	10 10 10 10 10	100 100 100 100 100	60 45 40 35 30	300 300 300 300 300	0.5-3.0	5.0-15.0
SMV1411-09 SMV1411-10 SMV1411-11 SMV1411-12	45 45 45 45	.50-1.00 1.00-1.50 1.50-2.00 2.00-3.00	25 25 25 25	200 200 200 200	50 40 30 25	250 250 250 250	.25-1.5	2.0-7.5
SMV1411-13 SMV1411-14 SMV1411-15 SMV1411-16	60 60 60 60	.50-1.00 1.00-1.50 1.50-2.00 2.00-3.00	60 60 60 60	300 300 300 300	30 25 20 15	150 150 150 150	.10-1.0	1.3-4.0
SMV1411-17 SMV1411-18	75 75	1.50-3.50 3.50-5.50	100 100	400 400	15 15	125 125		

#### Notes:

1. Measured at I<sub>r</sub> = 10 μA.
2. Measured at 1 MHz, V<sub>r</sub> = 6 volts.
3. Measured at I<sub>r</sub> = 10 mA, I<sub>a</sub> = 6mA.
4. Measured at V<sub>r</sub> = 10 volts, I<sub>r</sub> = 10 mA; Measured in 023-001 package.
5. Measured at F = 1GHz, V<sub>r</sub> = 6 volts
6. Dual diodes are available in 434-013 outline.

## Capacitors

### Outline 434-043

High Profile	Electrical Characteristics	
Type Number	DWV <sup>1</sup>	Capacitance (pf)
SMC1409-07	100V	10 ± 20%
SMC1409-09	100V	22 ± 20%
SMC1409-10	100V	47 ± 20%
SMC1409-12	100V	100 ± 20%

#### Notes:

1. DWV is the minimum dielectric withstanding voltage.