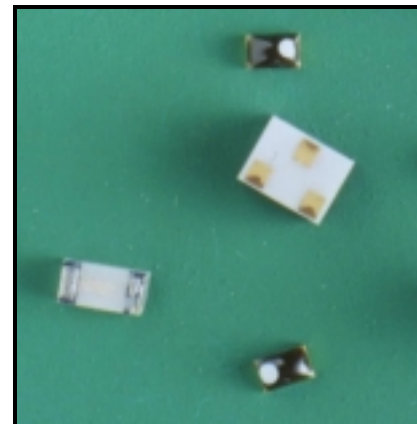


**KV1913A - KV1993A**  
**KV2163 - KV2113**  
**GC1300 - GC1310**  
**LSP1000 - LSP1012**

## ENHANCED PERFORMANCE SURFACE MOUNT "EPSM" PACKAGED DEVICES

### Features:

- Varactors, PIN Diodes, Limiter Diodes
- Frequencies from VHF to 6 GHz
- Lower Parasitics
- Mil Grade Ceramic/Epoxy Amalgam Construction
- Dense SiO<sub>2</sub> Junction Passivation
- Superior Consistency/Repeatability
- Footprints Available for SOT-23/SOD-323/SOD-123
- Dozens of Values and Configurations
- Priced for Commercial Products
- Tape & Reel for Volume Pick & Place



### DESCRIPTION:

Our EPSM packaged devices are designed for the most demanding commercial and Military requirements where the inconsistency of performance inherent in plastic surface mount packages cannot be tolerated. These package styles extend the surface mount construction format to 6 GHz for high performance wireless applications including VCO's, limiters, pin switches and pin attenuators. Select varactors from three families of C/V curves, PIN diodes for switching, attenuation or limiting through 6 GHz. They are available in multiple chip configuration as well as outlines which directly replace SOT-23 and SOD-323 devices. Other devices and values are always available - contact our applications engineering department for more details.

### APPLICATIONS

- High performance wireless surface mounting including:
  - GSM
  - TAGS
  - WANS
  - PCS
  - AMPS
  - DECT
  - CELLULAR

### PIN DIODE DEVICES FOR WIRELESS ATTENUATORS, SWITCHES AND LIMITERS ABSOLUTE MAXIMUM RATINGS AT 25°C

Forward Current (I <sub>F</sub> ):	1 Amp (1μs Pulse)
Power Dissipation (P <sub>D</sub> ):	500 mW (Derate to 0 at max T <sub>J</sub> )
Peak Inverse Volts (PIV):	Same as V <sub>B</sub>
Junction Temp. (Operating):	-65°C to + 125°C
Storage Temp. (Non-Operating):	-65°C to + 125°C
Leakage:	<50 nA @ 80% V <sub>B</sub> @ 25°C

### TEST CONDITIONS:

V <sub>B</sub> @ 10 μA	R <sub>S</sub> @ 100 MHz
C <sub>T</sub> @ 1 MHz	T <sub>L</sub> @ I <sub>F</sub> = 10 mA
I <sub>R</sub> = 6 mA	

TABLE 1

MODEL	V <sub>B</sub>	C <sub>T</sub> @ V <sub>R</sub> MAX.	R <sub>S</sub> @ I <sub>F</sub> MAX.	T <sub>L</sub> TYP.	APPLIC- -TION
LSP1000	> 35	.28 @ 5V	2.5Ω @ 5 mA	80nS	SWITCH
LSP1002	> 100	.32 @ 50V	4Ω @ 100 mA	1500nS	ATTENU- -ATOR
LSP1004	> 35	.75 @ 20V	0.6Ω @ 10 mA	150nS	SWITCH
LSP1011	> 200V	.35 @ 50V	2Ω @ 100 mA	2000nS	ATTENU- -ATOR
LSP1012	> 20V	.35pF @ 10V	1.8Ω @ 10 mA	5nS	LIMITER



**KV1913A - KV1993A**  
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**ENHANCED PERFORMANCE  
 SURFACE MOUNT "EPSM" VARACTORS**

**KV1900A SUPER HYPERABRUPT VARACTORS FOR 1 - 8 VOLT HIGH SENSITIVITY VCO'S**

MODEL	C <sub>T1</sub>	C <sub>T2.5</sub>	C <sub>T4</sub>	C <sub>T8</sub>	Q (4V / 50Mhz)
KV1913A	> 36 pF	18 - 27 pF	< 12.0 pF	< 6.20 pF	400
KV1953A	> 26 pF	13 - 20 pF	< 9.0 pF	< 4.70 pF	500
KV1923A	> 17 pF	8.5 - 13 pF	< 6.0 pF	< 3.20 pF	600
KV1933A	> 13 pF	6.5 - 10 pF	< 4.5 pF	< 2.70 pF	750
KV1943A	> 9 pF	4.5 - 6.5 pF	< 3.0 pF	< 1.70 pF	900
KV1963A	> 4 pF	2.0 - 3.0 pF	< 1.5 pF	< 1.00 pF	1200
KV1973A	> 1.8 pF	1.1 - 1.5 pF	< 0.8 pF	< 0.55 pF	1400
KV1983A	> 1.2 pF	0.8 - 1.1 pF	< 0.6 pF	< 0.45 pF	1600
KV1993A	> 0.6 pF	0.5 - 0.8 pF	< 0.4 pF	< 0.35 pF	1800

RATINGS: V<sub>B</sub> @ 10μA>12V I<sub>R</sub> @ 10V <50 nA @ 25°C

**KV2100 MICROWAVE HYPERABRUPT VARACTORS FOR 2 - 15 VOLT WIDE BANDWIDTH VCO'S**

MODEL	C <sub>T0</sub> TYPICAL	C <sub>T4</sub>	C <sub>T20</sub> MAX	Q (4V / 50Mhz)
KV2163	26 pF	8.75 - 10.80 pF	2.50 pF	> 400
KV2153	13.5 pF	4.45 - 5.50 pF	1.30 pF	> 600
KV2143	7 pF	2.65 - 3.30 pF	0.90 pF	> 700
KV2133	5 pF	1.75 - 2.20 pF	0.70 pF	> 850
KV2123	3 pF	1.30 - 1.65 pF	0.55 pF	> 1000
KV2113	2 pF	0.85 - 1.10 pF	0.45 pF	> 1200

Ratings: V<sub>B</sub> @ 10μA>22V I<sub>R</sub> @ 20V <50 nA @ 25°C

**GC1300 MICROWAVE ABRUPT VARACTORS  
 FOR 0-30 VOLT MODERATE BANDWIDTH LOW NOISE VCO'S**

MODEL	C <sub>T0</sub> /C <sub>T4</sub>	C <sub>T4</sub> ± 10%	C <sub>T4</sub> / C <sub>T30</sub>	Q (4V / 50Mhz)
GC1300	> 1.5	0.8 pF	> 1.45	> 3900
GC1301	> 1.6	1.0 pF	> 1.55	> 3800
GC1302	> 1.7	1.2 pF	> 1.60	> 3700
GC1303	> 1.8	1.5 pF	> 1.65	> 3600
GC1304	> 1.9	1.8 pF	> 1.70	> 3500
GC1305	> 2.0	2.2 pF	> 1.75	> 3400
GC1306	> 2.0	2.7 pF	> 1.80	> 3300
GC1307	> 2.1	3.3 pF	> 1.85	> 3100
GC1308	> 2.1	3.9 pF	> 1.85	> 2700
GC1309	> 2.1	4.7 pF	> 1.85	> 2600
GC1310	> 2.1	5.6 pF	> 1.85	> 2500

RATINGS: V<sub>B</sub> @ 10μA>30V I<sub>R</sub> @ 25V <50 nA @ 25°C

