LOW COST SQUARE CERAMIC PACKAGE PIN DIODES

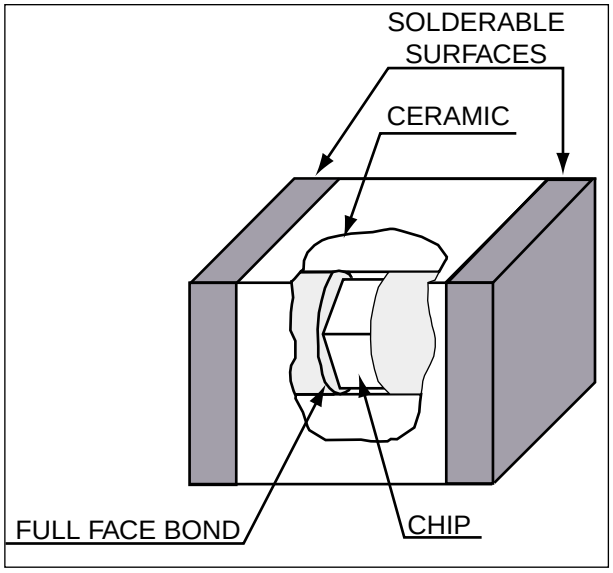
Features

- Low loss, low distortion
- Low inductance
- High reliability
- Hermetically sealed package
- Non rolling MELF design
- Pick and place compatibility

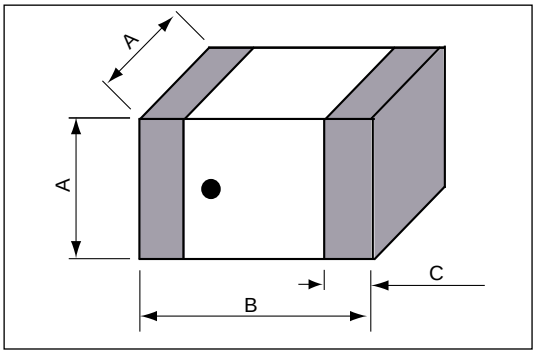
Description

TEMEX is manufacturing a square PIN diode for surface mount applications. The chip inside is passivated to ensure high reliability and very low leakage current. These diodes ensure high power switching at frequencies from HF to few GHz. This package utilizes ceramic package technology with low inductance and leadless faced package. The design simplifies automatic pick and place indexing and assembly.
The termination contacts are tin plated for vapor or reflow circuit board soldering. The active area is a PIN glass passivated chip, which can be designed to customer specifications.

Pinning



Outline drawing



		Millimeters		Inches	
Package	Symbol	min.	max	min.	max
SMD4	A	2	2.3	.079	.091
	B	2.9	3.5	.114	.138
	C	0.3	0.8	.012	.031
SMD6	A	2.5	2.8	.098	.0110
	B	4.7	5.2	.185	.205
	C	0.3	0.8	.012	.031
SMD8	A	3.50	3.81	.138	.150
	B	4.70	5.2	.185	.205
	C	0.20	0.38	.008	.015

Low cost square ceramic package PIN diodes

Applications

TEMEX square ceramic diodes are particularly suitable for high volume tape and reel assembly. Several values of total capacitance are available, together with a low forward series resistance. These components are designed to meet the low distortion specification required by all the mobile radio applications. Due to the specific design, these devices offer low loss and low thermal resistance performance and are characterized for high power handling. The electrical properties are ideal for use in antenna switches, filters, phase shifters, in all mobile radio applications from few MHz to GHz frequencies.

Electrical characteristics at 25° C

Electrical Parameter	Package	Applicable voltage V	Total capacitance C_T		Forward series resistance R_{SF}		Minority carrier lifetime τ_I	Power dissipation
Test conditions		I_R < 10 µA	f = 1 MHz V_R = 50 V		f = 120 MHz I_F = 50 mA		I_F = 10 mA I_R = 6 mA	Contact surface (1)
Type	Type	V	pF		Ω		µs	W
		max	typ.	max	typ.	max	min.	max
SQM1050	SMD4 (2)	50	0.6	0.7	0.70	0.90	1.0	3.0
SQM1150	SMD4	200	1.0	1.2	0.25	0.35	1.0	3.0
SQM1250	SMD4	50	0.9	1.2	0.50	0.75	2.0	4.0
SQM1350	SMD4 (2)	50	1.5	1.7	0.40	0.60	3.5	4.5
SQM1450	SMD8	50	1.8	2.5	0.50	0.75	5.0	8.0
New! SQM2050	SMD4	50	0.6	0.7	0.7	1.00	1.0	3
SQM2150	SMD4	50	1.0	1.2	0.25	0.35	1.0	3

(1) diode brazed on infinite copper heat sink at 25° C
(2) standard package SMD4 also available in SMD6

Temperature ranges:

Operating junction (T_j) : -55° C to +150° C
Storage : -65° C to +150° C
Soldering : 230° C 5 Sec.