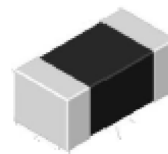


Features

- * Ultra low capacitance
- * Low leakage current
- * Low clamping voltage
- * Bi-directional ESD protection
- * RoHS Compliant
- * REACH & SVHC Compliant
- * Halogen Compliant
- * 1005 (0402) Package

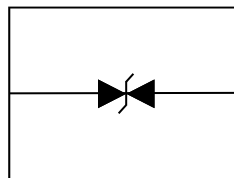
Package



Applications

- * ESD Protection for IO and Data line
- * Portable Equipment Protection

Circuit Diagram



Ordering Information

Part Number	Packaging	Reel Size
GG040205100N2P-CN	10000/Tape & Reel	7 inch

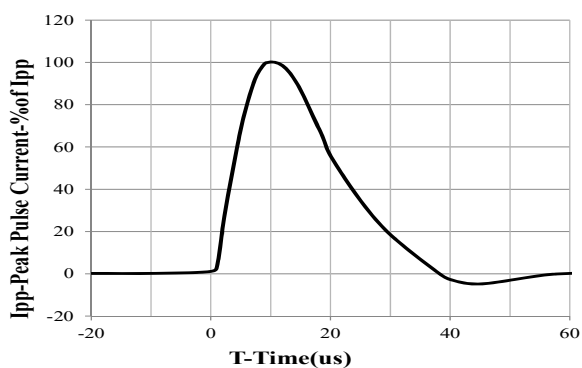
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Response time	T_{rise}	<1	ns
ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 8	kV
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 15	kV
Operating Temperature Range	T_J	-40 to +85	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-40 to +125	$^{\circ}\text{C}$
Maximum lead temperature for soldering during 10s	T_L	260	$^{\circ}\text{C}$

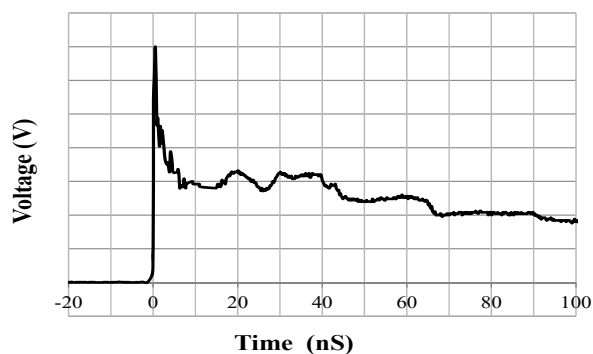
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Value	Unit
Maximum allowable continuous AC voltage	V_{RMS}	AC voltage at 50-60Hz	NIL	V
Maximum allowable continuous DC voltage	V_{DC}		5	V
Breakdown voltage	V_{B}	$I_{\text{T}}=1\text{mA}$	21.5-33	V
Typical capacitance value measured	C	$f=1\text{kHz}$, $V_{\text{RMS}}=0.5\text{V}$	10	pF
Typical capacitance value tolerance	C_{Δ}	$f=1\text{kHz}$, $V_{\text{RMS}}=0.5\text{V}$	7-13	pF
Clamping voltage measured	V_{C}	IEC61000-4-2, 8kV, @30ns	<50	V
Reverse Leakage Current ₍₁₎	$I_{\text{LVDC}(1)}$	$V_{\text{DC}}=5\text{V}$, initial state	<0.1	μA
Reverse Leakage Current ₍₂₎	$I_{\text{LVDC}(2)}$	$V_{\text{DC}}=5\text{V}$, after ESD Test	<1	μA

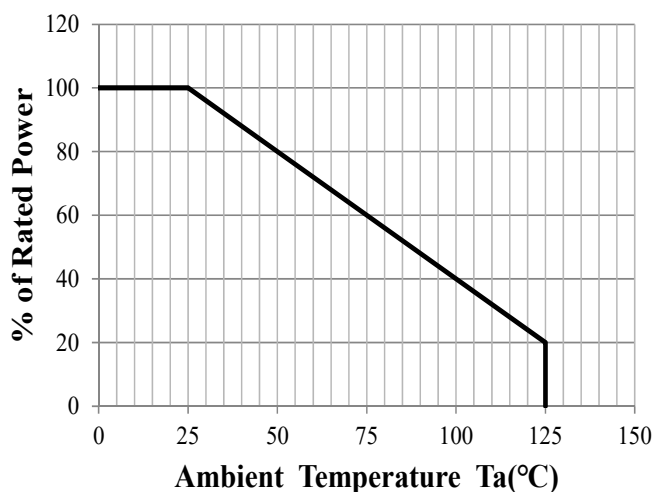
Typical Performance Characteristics



8/20us Pulse Waveform

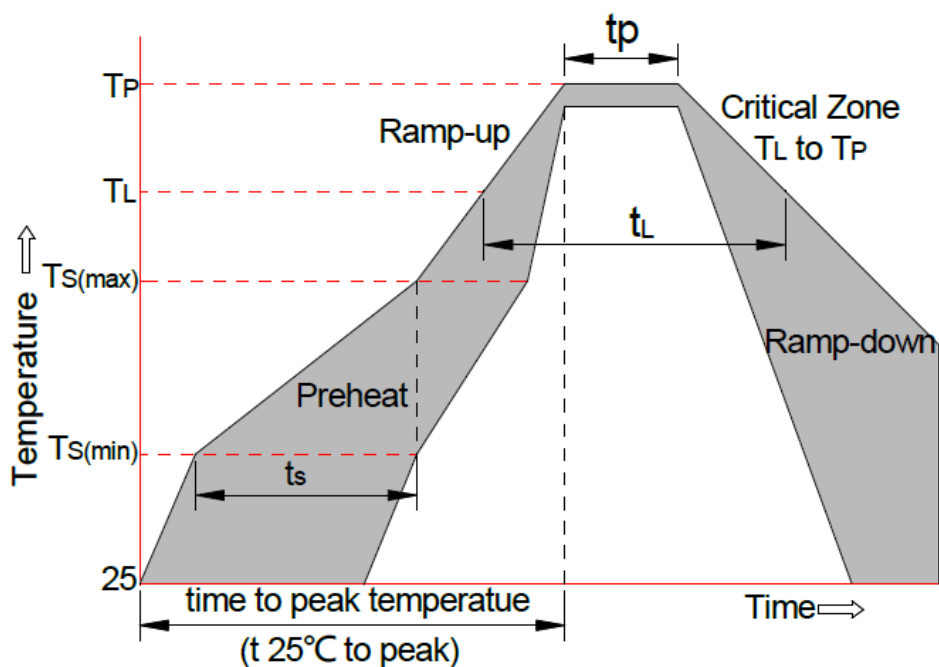


IEC61000-4-2 Pulse Waveform



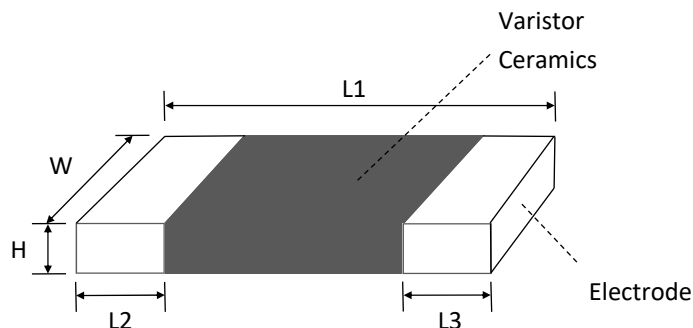
Power Derating Curve

Soldering Parameters



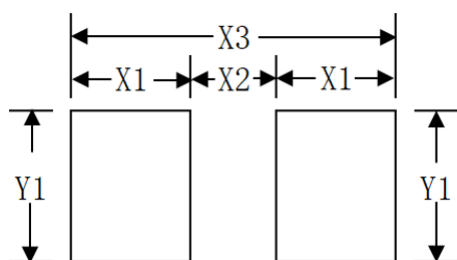
Reflow Conditions		Pb-Free Assembly
Pre-heat	-Temperature Min (T_s (min))	+150°C
	-Temperature Max (T_s (max))	+200°C
	-Time (Min to Max) (t_s)	60-180 secs
Average ramp up rate(Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{S(max)}$ to T_L -Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature (T_L) (Liquid us)	+217°C
	-Temperature (t_L)	60-150 secs
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 °C/secs. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

1005(0402) Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
L1	0.85	1.0	1.15	0.0335	0.0394	0.0453
W	0.35	0.50	0.65	0.0138	0.0197	0.0256
H	-	-	0.60	-	-	0.0236
L2	0.10	0.20	0.30	0.039	0.079	0.0118
L3	0.10	0.20	0.30	0.039	0.079	0.0118

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X1	0.6	0.0236
X2	0.4	0.0158
X3	1.6	0.0630
Y1	0.50	0.0197

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