GBLC03 thru GBLC24C

ESD electrostatic protection element

FEATURES

- 350 Watts Peak Pulse Power (t_p=8/20μs)
- Replacement for SOD323
- Protects two I/O and one power line
- Low Clamping Voltage
- Reverse Voltage: 5 V
- Low Leakage Current
- Response Time is Typically < 1 ns

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 ESD air±15KV，contact±8KV
- IEC 61000-4-4 ETF 20A (5/50ns)
- IEC 61000-4-5 Surge 17A (8/20μs)

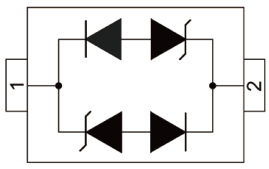
Mechanical Characteristics

- JEDEC SOD323 package
- RoHS Compliant

Applications

- Cellular Handsets and Accessories
- Portable Electronics
- Industrial Controls
- Set-Top Box
- Servers, Notebook, and Desktop PC

Schematic & PIN Configuration



SOD323 Top View

ABSOLUTE MAXIMUM RATING

Rating	Symbol	Value	Units
Peak Pulse Power (t_p = 8/20μs)	P_{PK}	350	Watts
Lead Soldering Temperature	T_L	260 (10sec)	°C/W
Operating Temperature	T_J	-55~150	°C
Storage Temperature	T_{STG}	-40~120	°C
IEC61000-4-2	V_{PP}	Air 15 Contact 8	KV

ELECTRICAL CHARACTERISTICS

GBLC03C

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	It=1mA	4			V
Leakage Current	I_R	@V_{RWM}			5	μA
Clamping Voltage	V_C	@1A			7	V
Clamping Voltage	V_C	@19A			19	V
Junction Capacitance	C_J	V_R=0V,f=1Mhz		0.8		pf

GBLC05C

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	It=1mA	6			V
Leakage Current	I_R	@V_{RWM}			5	μA
Clamping Voltage	V_C	@1A			9.8	V
Clamping Voltage	V_C	@17A			18.3	V
Junction Capacitance	C_J	V_R=0V,f=1Mhz		0.8		pf

ELECTRICAL CHARACTERISTICS

GBLC08C

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				8.0	V
Reverse Breakdown Voltage	V_{BR}	It=1mA	8.5			V
Leakage Current	I_R	@V_{RWM}			2	μA
Clamping Voltage	V_C	@1A			13.4	V
Clamping Voltage	V_C	@17A			18.5	V
Junction Capacitance	C_J	V_R=0V,f=1Mhz		0.8		pf

GBLC12C

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				12	V
Reverse Breakdown Voltage	V_{BR}	It=1mA	13.3			V
Leakage Current	I_R	@V_{RWM}			1	μA
Clamping Voltage	V_C	@1A			19	V
Clamping Voltage	V_C	@11A			28.6	V
Junction Capacitance	C_J	V_R=0V,f=1Mhz		0.8		pf

GBLC24C

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				24	V
Reverse Breakdown Voltage	V_{BR}	It=1mA	26.7			V
Leakage Current	I_R	@V_{RWM}			1	μA
Clamping Voltage	V_C	@1A			43	V
Clamping Voltage	V_C	@10A			31.8	V
Junction Capacitance	C_J	V_R=0V,f=1Mhz		0.8		pf

Figure 1: Peak Pulse Power vs. Pulse Time

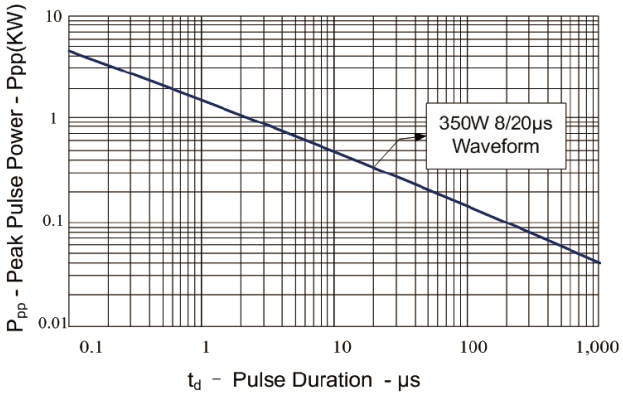


Figure 2: Power Derating Curve

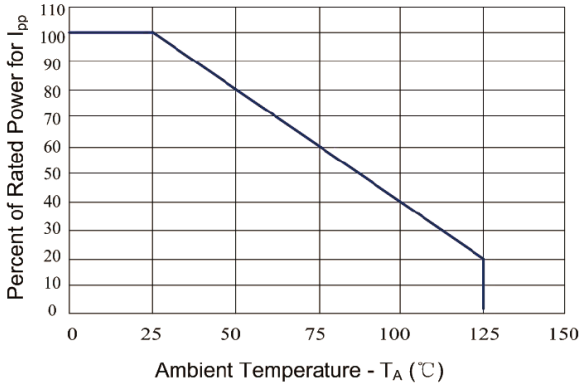


Figure 3: Clamping Voltage vs. Peak Pulse Current

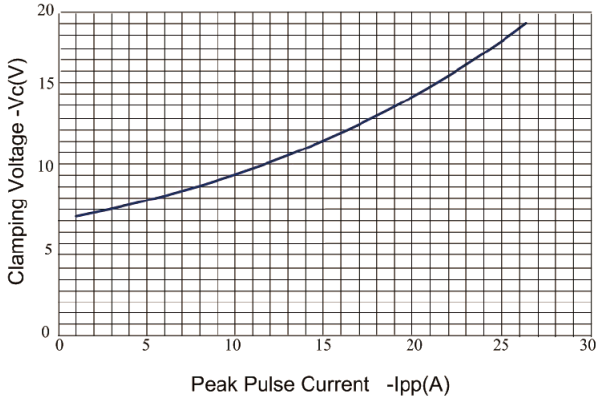


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

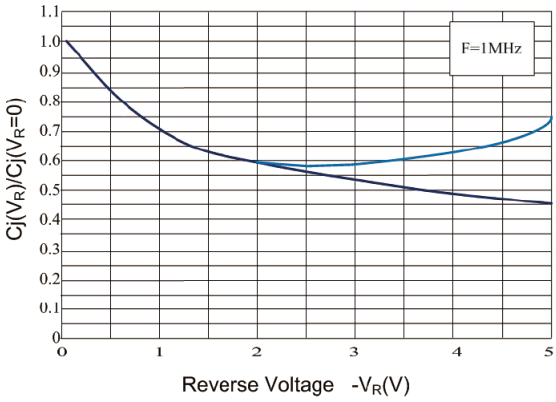


Figure 5: Pulse Waveform

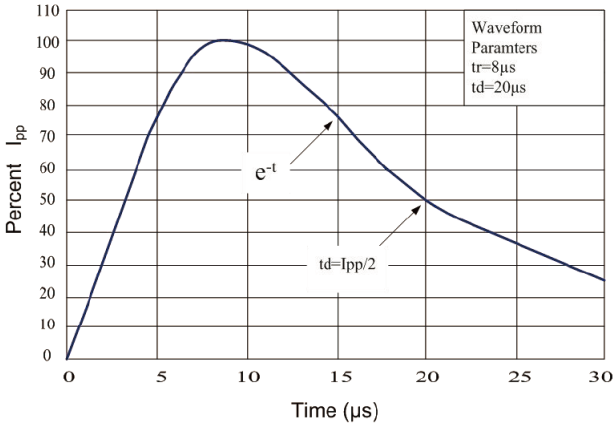
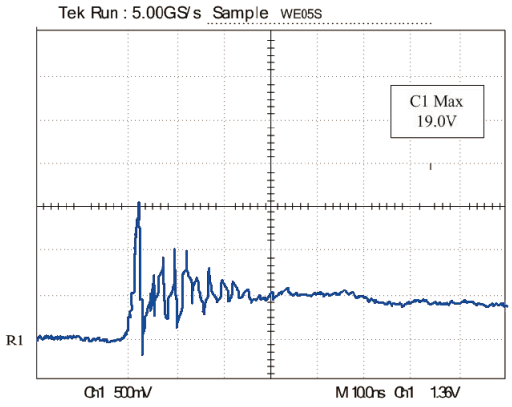


Figure 6: ESD Clamping(8kV Contact per IEC 61000-4-2)



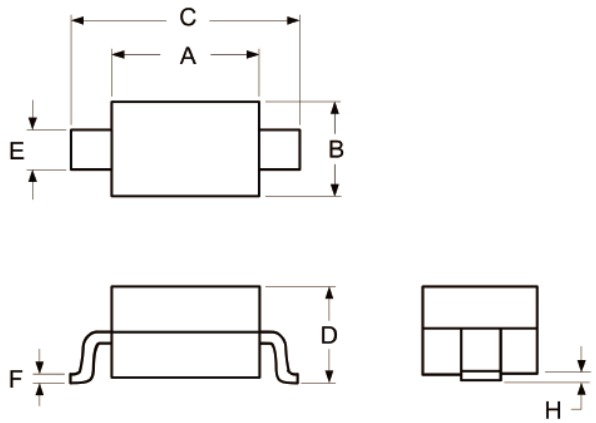
Document ID	Issued Date	Revised Date	Revision	Page.
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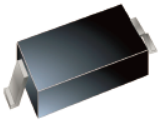
Marking

Type number	Marking code	Example
GBLC03C	CA1	
GBLC05C	5B/AC	
GBLC08C	8B/BC	
GBLC12C	AB	
GBLC24C	CB/HC	

OUTLINE DRAWING - SOD323

PACKAGE OUTLINE



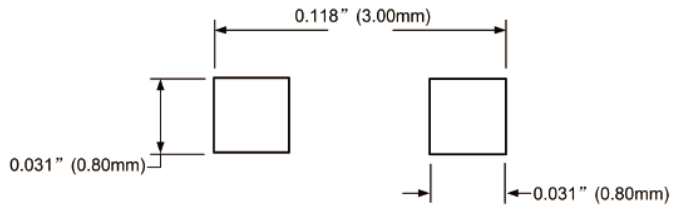


SOD-323

DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.39	2.70	0.094	0.106
D	0.92	1.10	0.036	0.043
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004

MOUNTING PAD



Notes

1. Controlling Dimensions in Millimeters.
2. Dimensions are exclusive of mold flash and metal burrs.

TAPE & REEL ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA-481.

Unikeyic Electronics

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MMBT5401 SMF15A 30SQ045 B5819WS BAV21W SM8S36A-Q1 SRV05-4 1N4148WT AS3D030120P2 BC847B F35UP-Q1 SMF7.0CA SMF9.0CA L50UN-Q1 SM6S30A-Q1 SM8S24A-Q1 SMF10A SM8S33CA-Q1 SMF18A SMF7.5CA SM6S33CA-Q1 SMF12CA BCP56-16 SMF18CA AS3D030065C BSS123 MMBT2907A SM8S33A-Q1 SMBJ43CA SMCJ36CA