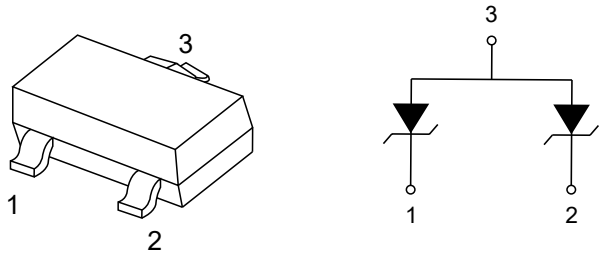
1.Features

- Two-line ESD protection device
- ESD immunity acc. IEC 61000-4-2
  ± 30 kV contact discharge
  ± 30 kV air discharge
- ESD capability according to AEC-Q101:
  human body model: class H3B: > 8 kV
- Space saving SOT-23 package
- AEC-Q101 qualified available

2.Pinning information



SOT-23

3.1Absolute Maximum Ratings GSOT03C

Parameter	Symbol	Symbol	Value	Units
Peak pulse current	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	I_{PPM}	30	A
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		30	A
Peak pulse power	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	P_{PP}	369	W
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		504	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	±30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		±30	kV
Junction temperature	Junction temperature	T_J	-55 to 150	°C
Storage temperature		T_{STG}	-55 to 150	°C

3.2Absolute Maximum Ratings GSOT04C

Parameter	Symbol	Symbol	Value	Units
Peak pulse current	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	I_{PPM}	30	A
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		30	A
Peak pulse power	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	P_{PP}	429	W
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		564	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	±30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		±30	kV
Junction temperature	Junction temperature	T_J	-55 to 150	°C
Storage temperature		T_{STG}	-55 to 150	°C

3.3Absolute Maximum Ratings GSOT05C

Parameter	Symbol	Symbol	Value	Units
Peak pulse current	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	I_{PPM}	30	A
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		30	A
Peak pulse power	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	P_{PP}	480	W
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		612	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	±30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		±30	kV
Junction temperature	Junction temperature	T_J	-55 to 150	°C
Storage temperature		T_{STG}	-55 to 150	°C

3.4Absolute Maximum Ratings GSOT08C

Parameter	Symbol	Symbol	Value	Units
Peak pulse current	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	I_{PPM}	18	A
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		18	A
Peak pulse power	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	P_{PP}	345	W
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		400	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	±30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		±30	kV
Junction temperature	Junction temperature	T_J	-55 to 150	°C
Storage temperature		T_{STG}	-55 to 150	°C

3.5Absolute Maximum Ratings GSOT12C

Parameter	Symbol	Symbol	Value	Units
Peak pulse current	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	I_{PPM}	12	A
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		12	A
Peak pulse power	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	P_{PP}	312	W
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		337	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	±30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		±30	kV
Junction temperature	Junction temperature	T_J	-55 to 150	°C
Storage temperature		T_{STG}	-55 to 150	°C

3.6Absolute Maximum Ratings GSOT15C

Parameter	Symbol	Symbol	Value	Units
Peak pulse current	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	I_{PPM}	8	A
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		8	A
Peak pulse power	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	P_{PP}	345	W
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		400	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	±30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		±30	kV
Junction temperature	Junction temperature	T_J	-55 to 150	°C
Storage temperature		T_{STG}	-55 to 150	°C

3.7Absolute Maximum Ratings GSOT24C

Parameter	Symbol	Symbol	Value	Units
Peak pulse current	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	I_{PPM}	5	A
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		5	A
Peak pulse power	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	P_{PP}	235	W
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		240	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	±30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		±30	kV
Junction temperature	Junction temperature	T_J	-55 to 150	°C
Storage temperature		T_{STG}	-55 to 150	°C

3.8Absolute Maximum Ratings GSOT36C

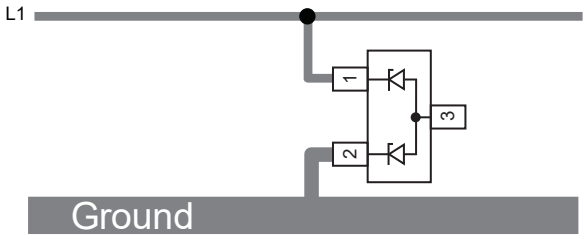
Parameter	Symbol	Symbol	Value	Units
Peak pulse current	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	I_{PPM}	3.5	A
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		3.5	A
Peak pulse power	Pin 1 to 3 or pin 2 to 3 acc. IEC 61000-4-5, t_p=8/20μs; single shot	P_{PP}	248	W
	Pin 1 to 2 or pin 2 to 1; pin 3 not connected acc. IEC 61000-4-5, t_p=8/20μs; single shot		252	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	±30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		±30	kV
Junction temperature	Junction temperature	T_J	-55 to 150	°C
Storage temperature		T_{STG}	-55 to 150	°C

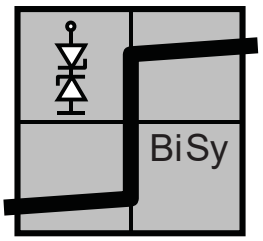
4.BiAs-MODE (2-line Bidirectional Asymmetrical protection mode)

With the GSOTxxC two signal- or data-lines (L1, L2) can be protected against voltage transients. With pin 3 connected to ground and pin 1 and pin 2 connected to a signal- or data-line which has to be protected. As long as the voltage level on the data- or signal-line is between 0 V (ground level) and the specified Maximum Reverse Working Voltage (VRWM) the protection diode between pin 2 and pin 3 and between pin 1 and pin 3 offers a high isolation to the ground line. The protection device behaves like an open switch.

As soon as any positive transient voltage signal exceeds the breakdown voltage level of the protection diode, the diode becomes conductive and shorts the transient current to ground. Now the protection device behaves like a closed switch. The Clamping Voltage (VC) is defined by the breakdown voltage (VBR) level plus the voltage drop at the series impedance (resistance and inductance) of the protection diode.

Any negative transient signal will be clamped accordingly. The negative transient current is flowing in the forward direction through the protection diode. The low Forward Voltage (VF) clamps the negative transient close to the ground level.Due to the different clamping levels in forward and reverse direction the GSOTxxC clamping behavior is Bidirectional and Asymmetrical (BiAs).





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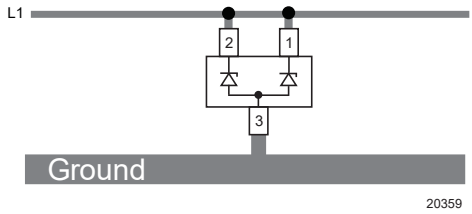
If a higher surge current or peak pulse current (I_{PP}) is needed, both protection diodes in the GSOTxxC can also be used in parallel in order to “double” the performance.

This offers:

- double surge power = double peak pulse current (2 x I_{PPM})
- half of the line inductance = reduced clamping voltage
- half of the line resistance = reduced clamping voltage
- double line capacitance (2 x C_D)
- double reverse leakage current (2 x I_R)



5.1Electrical Characteristics GSOT03C (T_{amb}=25 °C)

between pin 1 to pin 3 or pin 2 to pin 3

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			2	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			3.3	V
Reverse voltage	V_R	at I_R=100μA	3.3			V
Reverse current	I_R	at V_R=3.3V			10	0μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	4	4.6	5.5	V
Reverse clamping voltage	V_C	at I_{PP}=1A		5.7	7.5	V
		at I_{PP}=I_{PPM}=30 A		10	12.3	V
Forward clamping voltage	V_F	at I_{PP}=1A		1	1.2	V
		at I_{PP}=I_{PPM}=30 A		4.5		V
Capacitance	C_D	at V_R=0V, f=1MHz		420	600	pF
		at V_R=1.6V, f=1MHz		260		pF

5.2Electrical Characteristics GSOT04C (T_{amb}=25 °C)

between pin 1 to pin 3 or pin 2 to pin 3

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			2	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			4	V
Reverse voltage	V_R	at I_R=20μA	4			V
Reverse current	I_R	at V_R=4V			20	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	5	6.1	7	V
Reverse clamping voltage	V_C	at I_{PP}=1A		7.5	9	V
		at I_{PP}=I_{PPM}=30 A		11.2	14.3	V
Forward clamping voltage	V_F	at I_{PP}=1A		1	1.2	V
		at I_{PP}=I_{PPM}=30 A		4.5		V
Capacitance	C_D	at V_R=0V, f=1MHz		310	450	pF
		at V_R=2V, f=1MHz		200		pF

5.3Electrical Characteristics GSOT05C (T_{amb}=25 °C)

between pin 1 to pin 3 or pin 2 to pin 3

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			2	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			5	V
Reverse voltage	V_R	at I_R=10μA	5			V
Reverse current	I_R	at V_R=5V			10	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	6	6.8	8	V
Reverse clamping voltage	V_C	at I_{PP}=1A		7	8.7	V
		at I_{PP}=I_{PPM}=30 A		12	16	V
Forward clamping voltage	V_F	at I_{PP}=1A		1	1.2	V
		at I_{PP}=I_{PPM}=30 A		4.5		V
Capacitance	C_D	at V_R=0V, f=1MHz		260	350	pF
		at V_R=2.5V, f=1MHz		150		pF

5.4Electrical Characteristics GSOT08C (T_{amb}=25 °C)

between pin 1 to pin 3 or pin 2 to pin 3

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			2	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			8	V
Reverse voltage	V_R	at I_R=5μA	8			V
Reverse current	I_R	at V_R=8V			5	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	9	10	11	V
Reverse clamping voltage	V_C	at I_{PP}=1A		10.7	13	V
		at I_{PP}=I_{PPM}=18A		15.2	19.2	V
Forward clamping voltage	V_F	at I_{PP}=1A		1	1.2	V
		at I_{PP}=I_{PPM}=18A		3		V
Capacitance	C_D	at V_R=0V, f=1MHz		160	250	pF
		at V_R=4V, f=1MHz		80		pF

5.5Electrical Characteristics GSOT12C (T_{amb}=25 °C)

between pin 1 to pin 3 or pin 2 to pin 3

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			2	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			12	V
Reverse voltage	V_R	at I_R=1μA	12			V
Reverse current	I_R	at V_R=12V			1	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	13.5	15	16.5	V
Reverse clamping voltage	V_C	at I_{PP}=1A		15.4	18.7	V
		at I_{PP}=I_{PPM}=12A		21.2	26	V
Forward clamping voltage	V_F	at I_{PP}=1A		1	1.2	V
		at I_{PP}=I_{PPM}=12A		2.2		V
Capacitance	C_D	at V_R=0V, f=1MHz		115	150	pF
		at V_R=6V, f=1MHz		50		pF

5.6Electrical Characteristics GSOT15C (T_{amb}=25 °C)

between pin 1 to pin 3 or pin 2 to pin 3

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			2	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			15	V
Reverse voltage	V_R	at I_R=1μA	15			V
Reverse current	I_R	at V_R=15V		1		μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	16.5	18	20	V
Reverse clamping voltage	V_C	at I_{PP}=1A		19.4	23.5	V
		at I_{PP}=I_{PPM}=8A		24.8	28.8	V
Forward clamping voltage	V_F	at I_{PP}=1A		1	1.2	V
		at I_{PP}=I_{PPM}=8A		1.8		V
Capacitance	C_D	at V_R=0V, f=1MHz		90	120	pF
		at V_R=7.5V, f=1MHz		35		pF

5.7Electrical Characteristics GSOT24C (T_{amb}=25 °C)

between pin 1 to pin 3 or pin 2 to pin 3

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			2	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			24	V
Reverse voltage	V_R	at I_R=1μA	24			V
Reverse current	I_R	at V_R=24V			1	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	27	30	33	V
Reverse clamping voltage	V_C	at I_{PP}=1A		34	41	V
		at I_{PP}=I_{PPM}=5A		41	47	V
Forward clamping voltage	V_F	at I_{PP}=1A		1	1.2	V
		at I_{PP}=I_{PPM}=5A		1.4		V
Capacitance	C_D	at V_R=0V, f=1MHz		65	80	pF
		at V_R=12V, f=1MHz		20		pF

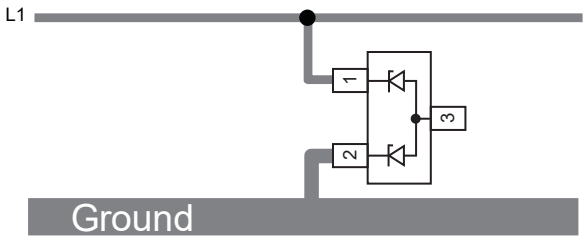
5.8Electrical Characteristics GSOT36C (T_{amb}=25 °C)

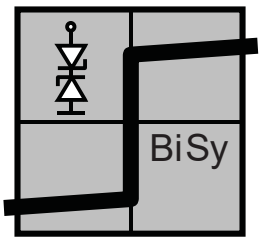
between pin 1 to pin 3 or pin 2 to pin 3

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			2	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			36	V
Reverse voltage	V_R	at I_R=1μA	36			V
Reverse current	I_R	at V_R=36V			1	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	39	43	47	V
Reverse clamping voltage	V_C	at I_{PP}=1A		49	60	V
		at I_{PP}=I_{PPM}=3.5A		59	71	V
Forward clamping voltage	V_F	at I_{PP}=1A		1	1.2	V
		at I_{PP}=I_{PPM}=3.5A		1.3		V
Capacitance	C_D	at V_R=0V, f=1MHz		52	65	pF
		at V_R=18V, f=1MHz		12		pF

6.BiSy-MODE (1-line bidirectional symmetrical protection mode)

If a bipolar symmetrical protection device is needed the GSOTxxC can also be used as a single line protection device. Therefore pin 1 has to be connected to the signal- or data-line (L1) and pin 2 to ground (or vice versa). Pin 3 must not be connected. Positive and negative voltage transients will be clamped in the same way. The clamping current through the GSOTxxC passes one diode in forward direction and the other one in reverse direction. The clamping voltage (VC) is defined by the breakthrough voltage (VBR) level of one diode plus the forward voltage of the other diode plus the voltage drop at the series impedances (resistances and inductances) of the protection device. Due to the same clamping levels in positive and negative direction the GSOTxxC voltage clamping behaviour is bidirectional and symmetrical (BiSy).





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7.1Electrical Characteristics GSOT03C (T_{amb}=25 °C)

between pin 1 to pin 2 or pin 2 to pin1; pin 3 not connected

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			1	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			3.8	V
Reverse voltage	V_R	at I_R=100μA	3.8			V
Reverse current	I_R	at V_R=3.8V			100	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	4.5	5.3	6.2	V
Reverse clamping voltage	V_C	at I_{PP}=1A		7	8.4	V
		at I_{PP}=I_{PPM}=30 A		14	16.8	V
Capacitance	C_D	at V_R=0V, f=1MHz		210	300	pF
		at V_R=1.6V, f=1MHz		190		pF

7.2Electrical Characteristics GSOT04C (T_{amb}=25 °C)

between pin 1 to pin 2 or pin 2 to pin1; pin 3 not connected

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			1	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			4.5	V
Reverse voltage	V_R	at I_R=20μA	4.5			V
Reverse current	I_R	at V_R=4.5V			20	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	5.5	6.8	7.7	V
Reverse clamping voltage	V_C	at I_{PP}=1A		7.5	9	V
		at I_{PP}=I_{PPM}=30A		15.7	18.8	V
Capacitance	C_D	at V_R=0V, f=1MHz		155	225	pF
		at V_R=2V, f=1MHz		135		pF

7.3Electrical Characteristics GSOT05C (T_{amb}=25 °C)

between pin 1 to pin 2 or pin 2 to pin1; pin 3 not connected

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			1	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			5.5	V
Reverse voltage	V_R	at I_R=10μA	5.5			V
Reverse current	I_R	at V_R=5.5V			10	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	6.5	7.5	8.7	V
Reverse clamping voltage	V_C	at I_{PP}=1A		8.1	9.7	V
		at I_{PP}=I_{PPM}=30A		17	20.4	V
Capacitance	C_D	at V_R=0V, f=1MHz		130	175	pF
		at V_R=4V, f=1MHz		100		pF

7.4Electrical Characteristics GSOT08C (T_{amb}=25 °C)

between pin 1 to pin 2 or pin 2 to pin1; pin 3 not connected

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			1	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			8.5	V
Reverse voltage	V_R	at I_R=5μA	8.5			V
Reverse current	I_R	at V_R=8.5V			5	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	9.5	10.7	11.7	V
Reverse clamping voltage	V_C	at I_{PP}=1A		11.7	14	V
		at I_{PP}=I_{PPM}=18A		18.5	22.2	V
Capacitance	C_D	at V_R=0V, f=1MHz		80	125	pF
		at V_R=4V, f=1MHz		60		pF

7.5Electrical Characteristics GSOT012C (T_{amb}=25 °C)

between pin 1 to pin 2 or pin 2 to pin1; pin 3 not connected

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			1	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			12.5	V
Reverse voltage	V_R	at I_R=1μA	12.5			V
Reverse current	I_R	at V_R=12.5V			1	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	13.5	15.7	16.5	V
Reverse clamping voltage	V_C	at I_{PP}=1A		16.4	19.7	V
		at I_{PP}=I_{PPM}=12A		23.4	28.1	V
Capacitance	C_D	at V_R=0V, f=1MHz		58	75	pF
		at V_R=7.5V, f=1MHz		36		pF

7.6Electrical Characteristics GSOT15C (T_{amb}=25 °C)

between pin 1 to pin 2 or pin 2 to pin1; pin 3 not connected

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			1	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			15.5	V
Reverse voltage	V_R	at I_R=1μA	15.5			V
Reverse current	I_R	at V_R=15.5V			1	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	17	18.7	20.7	V
Reverse clamping voltage	V_C	at I_{PP}=1A		20.4	24.5	V
		at I_{PP}=I_{PPM}=8A		26.6	30.6	V
Capacitance	C_D	at V_R=0V, f=1MHz		45	60	pF
		at V_R=7.5V, f=1MHz		25		pF

7.7Electrical Characteristics GSOT024C (T_{amb}=25 °C)

between pin 1 to pin 2 or pin 2 to pin1; pin 3 not connected

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			1	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			24.5	V
Reverse voltage	V_R	at I_R=1μA	24.5			V
Reverse current	I_R	at V_R=24.5V			1	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	27.5	30.7	33.7	V
Reverse clamping voltage	V_C	at I_{PP}=1A		34	41	V
		at I_{PP}=I_{PPM}=5A		40	48	V
Capacitance	C_D	at V_R=0V, f=1MHz		33	40	pF
		at V_R=12V, f=1MHz		18		pF

7.8Electrical Characteristics GSOT36C (T_{amb}=25 °C)

between pin 1 to pin 2 or pin 2 to pin1; pin 3 not connected

Parameter	Symbol	Test Conditions/Remarks	Min	Typ	Max	Units
Protection paths	$N_{channel}$	Number of li nes which can be protected			1	lines
Reverse stand-off voltage	V_{RWM}	Max. reverse working voltage			36.5	V
Reverse voltage	V_R	at I_R=1μA	36.5			V
Reverse current	I_R	at V_R=36.5V			1	μA
Reverse breakdown voltage	V_{BR}	at I_R=1mA	39.5	43.7	47.7	V
Reverse clamping voltage	V_C	at I_{PP}=1A		50	60	V
		at I_{PP}=I_{PPM}=3.5A		60	72	V
Capacitance	C_D	at V_R=0V, f=1MHz		26	33	pF
		at V_R=18V, f=1MHz		10		pF

8.1Typical characteristic

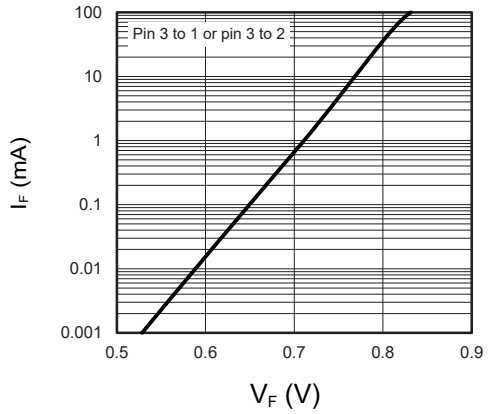


Figure 1: Typical Forward Current I_F vs. Forward Voltage V_F

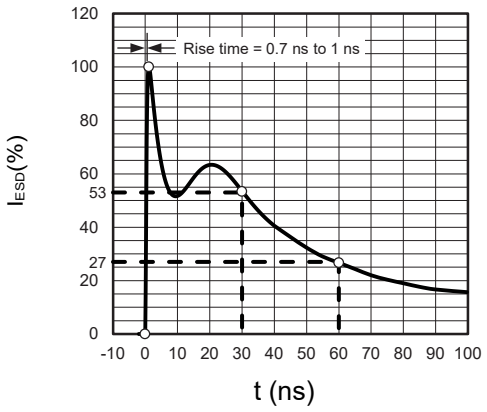


Figure 2: ESD Discharge Current Waveform According to IEC 61000-4-2 (330 Ω / 150 pF)

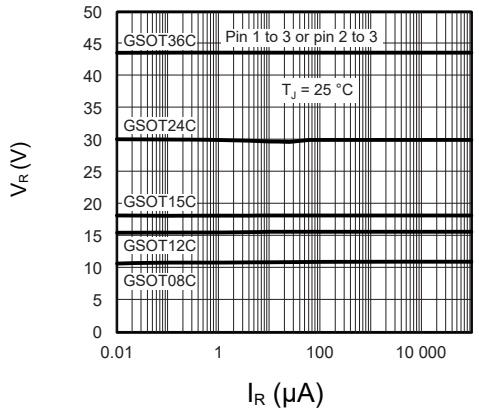


Figure 3: Typical Reverse Voltage V_R vs. Reverse Current I_R

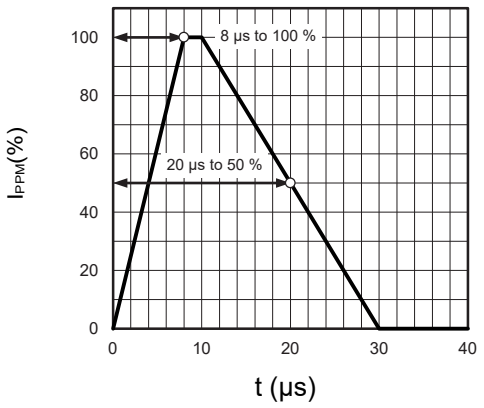


Figure 4: 8/20 µs Peak Pulse Current Waveform According to IEC 61000-4-5

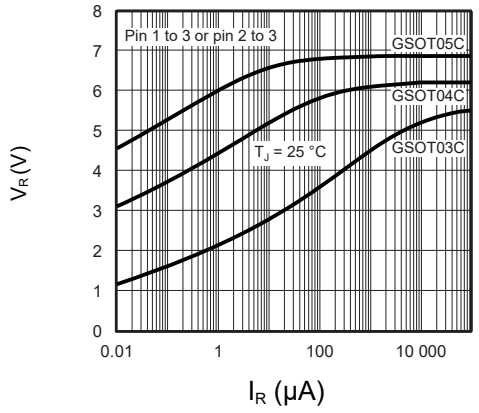


Figure 5: Typical Reverse Voltage V_R vs. Reverse Current I_R

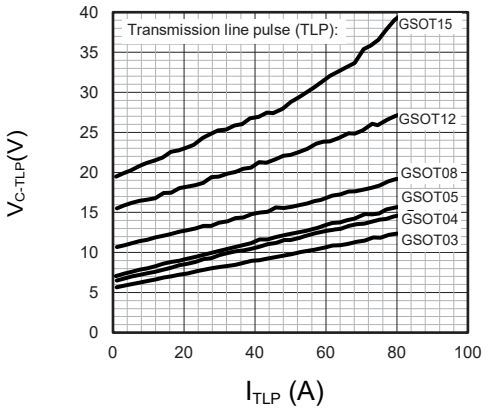


Figure 6: Typical Clamping Voltage vs. Peak Pulse Current

8.2Typical characteristic

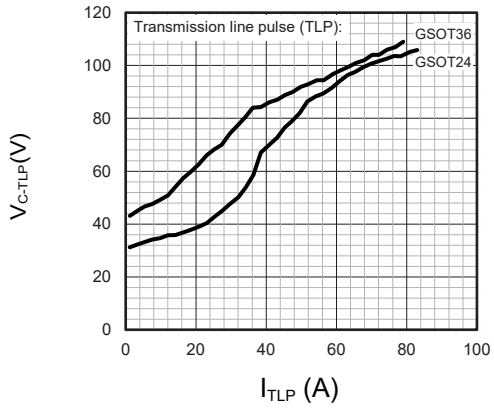


Figure 7: Typical Clamping Voltage vs. Peak Pulse Current

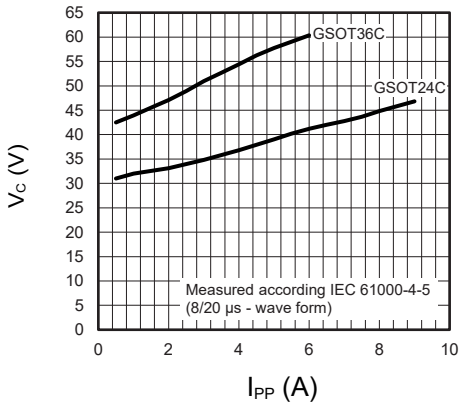


Figure 8: Typical Peak Clamping Voltage vs. Peak Pulse Current

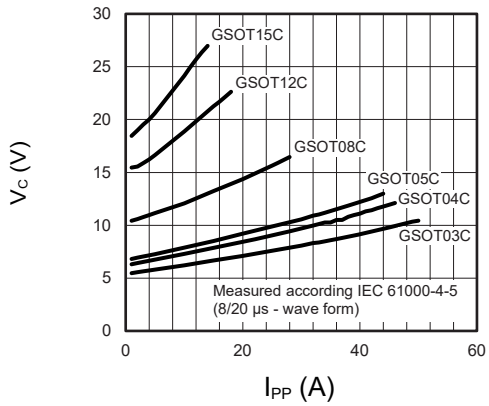


Figure 9: Typical Peak Clamping Voltage vs. Peak Pulse Current

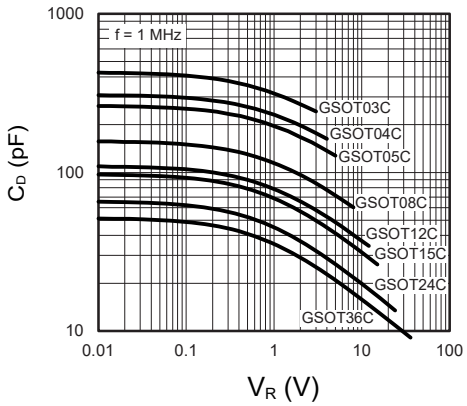
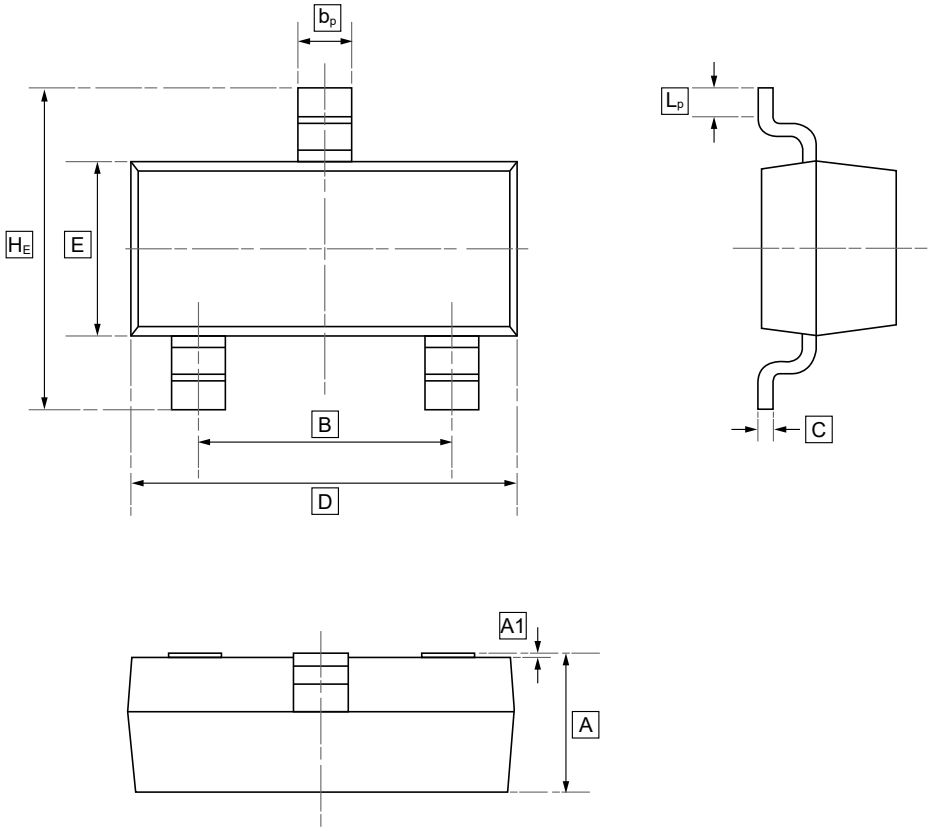


Figure 10: Typical Capacitance vs. Reverse Voltage

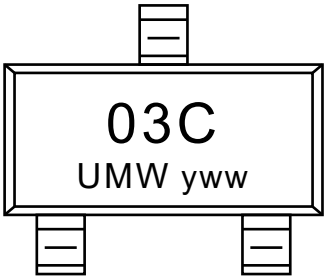
9.SOT-23 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	B	b_p	C	D	E	H_E	A1	L_p
Min	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20
Max	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50

10.Ordering information



yww: Batch Code

Order Code	Marking	Package	Base QTY	Delivery Mode
UMW GSOT03C-E3-08	03C	SOT-23	3000	Tape and reel
UMW GSOT04C-E3-08	04C	SOT-23	3000	Tape and reel
UMW GSOT05C-E3-08	05C	SOT-23	3000	Tape and reel
UMW GSOT08C-E3-08	08C	SOT-23	3000	Tape and reel
UMW GSOT12C-E3-08	12C	SOT-23	3000	Tape and reel
UMW GSOT15C-E3-08	15C	SOT-23	3000	Tape and reel
UMW GSOT24C-E3-08	24C	SOT-23	3000	Tape and reel
UMW GSOT36C-E3-08	36C	SOT-23	3000	Tape and reel

11.Disclaimer

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