

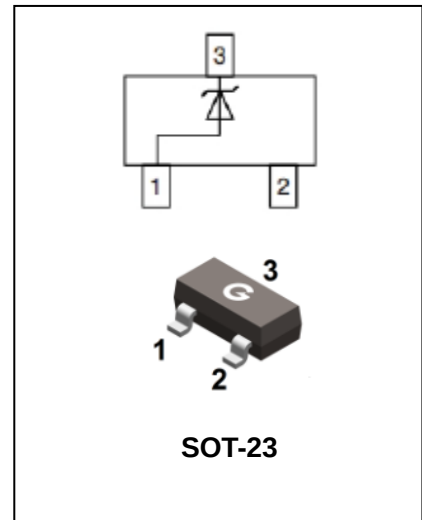
Two-Line ESD Protection

GSOT03 – GSOT24

FEATURES

- Two-line ESD-protection device
- ESD-protection acc. IEC 61000-4-2
± 30 kV contact discharge
± 30 kV air discharge

HF



APPLICATIONS

- Cell Phone Handsets and Accessories
- Microprocessor based equipment

ORDERING INFORMATION

Type No.	Marking	Package Code
GSOT03	03	SOT-23
GSOT05	05	SOT-23
GSOT12	12	SOT-23
GSOT24	24	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

GSOT03				
Parameter	Test Conditions	Symbol	Limits	Unit
Peak pulse power	Pin 1 to 3 acc. IEC 61000-4-5, tp = 8/20 µs; single shot	P _{pp}	369	W
Peak pulse current	Pin 1 to 3 IEC 61000-4-5, tp = 8/20 µs; single shot	I _{pp}	30	A
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V _{PP}	±30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses	V _{ESD}	±30	kV
Operating temperature	Junction temperature	T _j	-55 to+150	°C
Storage temperature	/	T _{STG}	-55 to+150	°C

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GSOT05				
Parameter	Test Conditions	Symbol	Limits	Unit
Peak pulse power	Pin 1 to 3 acc. IEC 61000-4-5, $t_p = 8/20 \mu s$; single shot	P_{pp}	480	W
Peak pulse current	Pin 1 to 3 acc. IEC 61000-4-5, $t_p = 8/20 \mu s$; single shot	I_{pp}	30	A
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{PP}	± 30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	± 30	kV
Operating temperature	Junction temperature	T_j	-55 to +150	$^{\circ}C$
Storage temperature	/	T_{STG}	-55 to +150	$^{\circ}C$

GSOT12				
Parameter	Test Conditions	Symbol	Limits	Unit
Peak pulse power	Pin 1 to 3 acc. IEC 61000-4-5, $t_p = 8/20 \mu s$; single shot	P_{pp}	312	W
Peak pulse current	Pin 1 to 3 acc. IEC 61000-4-5, $t_p = 8/20 \mu s$; single shot	I_{pp}	12	A
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{PP}	± 30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	± 30	kV
Operating temperature	Junction temperature	T_j	-55 to +150	$^{\circ}C$
Storage temperature	/	T_{STG}	-55 to +150	$^{\circ}C$

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GSOT24				
Parameter	Test Conditions	Symbol	Limits	Unit
Peak pulse power	Pin 1 to 3 acc. IEC 61000-4-5, $t_p = 8/20 \mu s$; single shot	P_{pp}	235	W
Peak pulse current	Pin 1 to 3 acc. IEC 61000-4-5, $t_p = 8/20 \mu s$; single shot	I_{pp}	5	A
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{PP}	± 30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	± 30	kV
Operating temperature	Junction temperature	T_j	-55 to +150	$^{\circ}C$
Storage temperature	/	T_{STG}	-55 to +150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS @ $T_a=25^{\circ}C$ unless otherwise specified

GSOT03 between pin 1 to pin 3						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse stand-off voltage	V_{RWM}			3.3	V	$I_R=100\mu A$
Reverse current	I_R			100	μA	$V_R=3.3V$
Reverse breakdown voltage	V_{BR}	4	4.6		V	$I_R=1mA$
Clamping voltage	V_C		5.7 10	7.5 12.3	V	$I_{PP}=1A$ $I_{PP}=I_{PPM}=30A$
Forward clamping voltage	V_F		1 4.5	1.2	μA	$I_{PP}=1A$ $I_{PP}=I_{PPM}=30A$
Junction Capacitance	C_D		420 260	600	pF	$V_R=0V, f=1MHz$ $V_R=1.6V, f=1MHz$

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GSOT05

between pin 1 to pin 3

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse stand-off voltage	V_{RWM}			5	V	$I_R=100\mu A$
Reverse current	I_R			10	μA	$V_R=5V$
Reverse breakdown voltage	V_{BR}	6	6.8		V	$I_R=1mA$
Clamping voltage	V_C		7 12	8.7 16	V	$I_{PP}=1A$ $I_{PP}=I_{PPM}=30A$
Forward clamping voltage	V_F		1 4.5	1.2	μA	$I_{PP}=1A$ $I_{PP}=I_{PPM}=30A$
Junction Capacitance	C_D		260 150	350	pF	$V_R=0V, f=1MHz$ $V_R=2.5V, f=1MHz$

GSOT12

between pin 1 to pin 3

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse stand-off voltage	V_{RWM}			12	V	$I_R=1\mu A$
Reverse current	I_R			1	μA	$V_R=12V$
Reverse breakdown voltage	V_{BR}	13.5	15		V	$I_R=1mA$
Clamping voltage	V_C		15.4 21.2	18.7 26	V	$I_{PP}=1A$ $I_{PP}=I_{PPM}=12A$
Forward clamping voltage	V_F		1 2.2	1.2	μA	$I_{PP}=1A$ $I_{PP}=I_{PPM}=12A$
Junction Capacitance	C_D		115 50	150	pF	$V_R=0V, f=1MHz$ $V_R=6V, f=1MHz$

Two-Line ESD Protection

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GSOT24

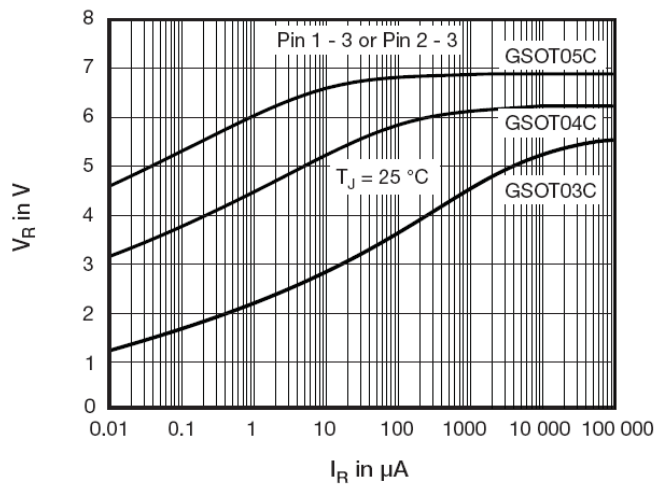
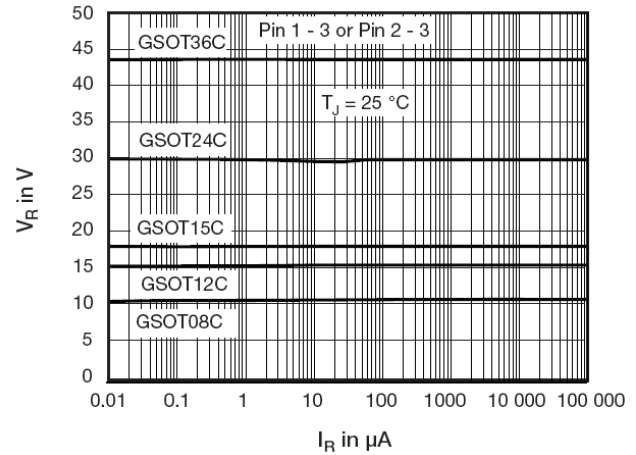
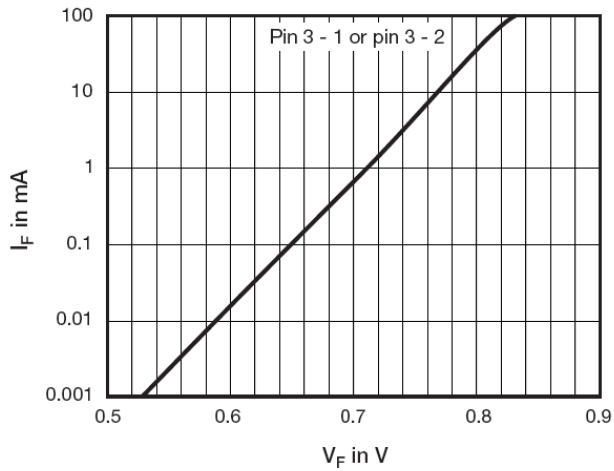
between pin 1 to pin 3

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse stand-off voltage	V_{RWM}			24	V	$I_R=1\mu A$
Reverse current	I_R			1	μA	$V_R=24V$
Reverse breakdown voltage	V_{BR}	27	30		V	$I_R=1mA$
Clamping voltage	V_C		34 41	41 47	V	$I_{PP}=1A$ $I_{PP}=I_{PPM}=5A$
Forward clamping voltage	V_F		1 1.4	1.2	μA	$I_{PP}=1A$ $I_{PP}=I_{PPM}=5A$
Junction Capacitance	C_D		65 20	80	pF	$V_R=0V, f=1MHz$ $V_R=12V, f=1MHz$

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TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



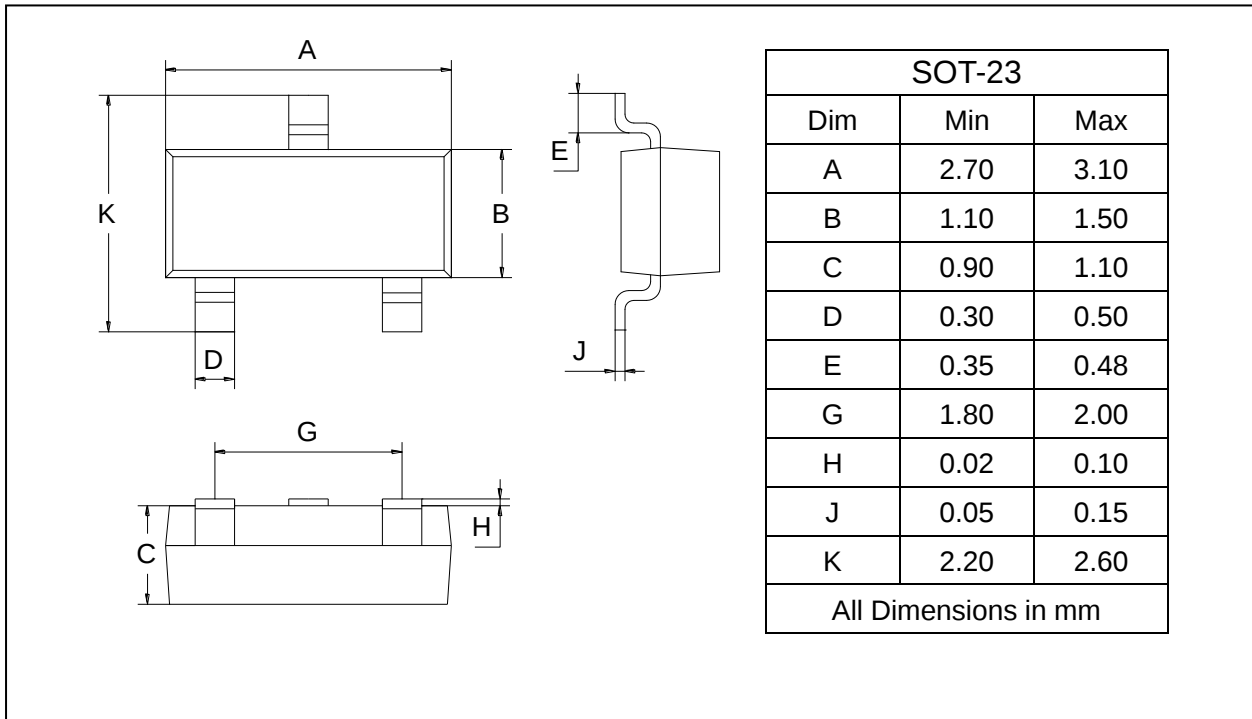
Two-Line ESD Protection

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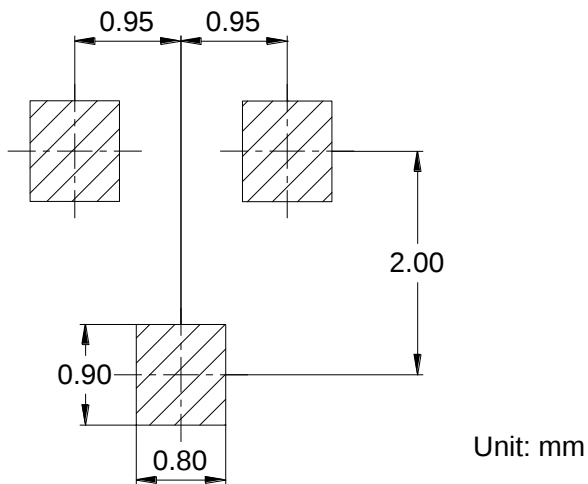
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
GSOT03 - GSOT24	SOT-23	3000 pcs / Tape & Reel