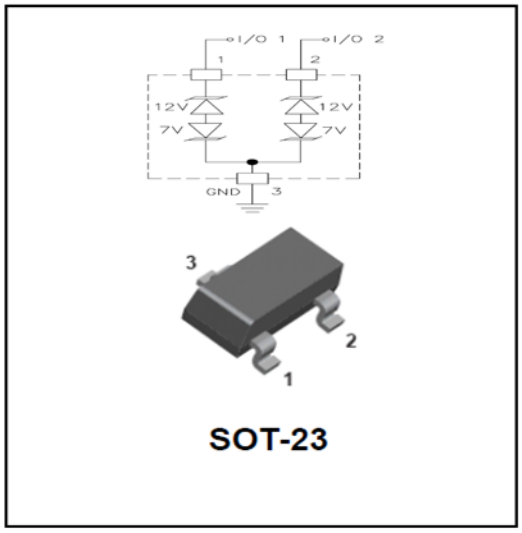
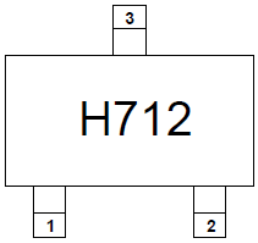
ESD Protection Diode



Features

- Low clamping voltage
- Low leakage
- Operating voltage: 7V or 12V
- Moisture Sensitivity: Level 1 per J-STD-020
- Marking:H712



■Maximum Ratings

PARAMETER	SYMBOL	VALUE		UNIT
Operating Junction	T_J	-55 to +125		℃
Storage Temperature	T_{STG}	-55 to +150		℃
IEC61000-4-2(ESD)Air	V_{ESD} (1)	±30		KV
IEC61000-4-2(ESD)Contact		±30		KV
Peak Pulse Power	P_{PP} (2)	600-1000		W
Peak Pulse Current	I_{PP} (2)	Pin 1 or 2 to Pin 3	30	A
		Pin 3 to Pin 1 or 2	38	

(1).Device stressed with ten non-repetitive ESD pulses.
(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

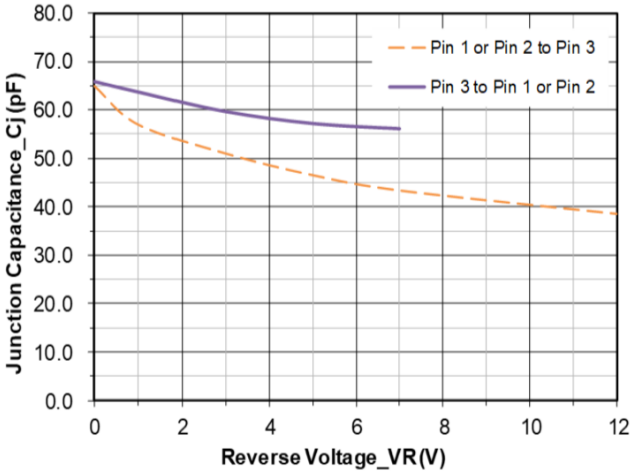
PARAMETER	SYMBOL	UNIT	CONDITIONS		MIN	TYP	MAX
Reverse Standoff Voltage	V_{RWM} (1)	V	Pin 1 to Pin 3 and Pin2 to Pin 3				12
			Pin 3 to Pin 1 and Pin3 to Pin 2				7
Reverse Leakage Current	I_R	uA	Pin 1 to Pin 3 and Pin2 to Pin 3	VR = V_{RWM}			0.5
			Pin 3 to Pin 1 and Pin3 to Pin 2	VR = V_{RWM}			0.5
Breakdown Voltage	$V_{(BR)}$	V	Pin 1 to Pin 3 and Pin2 to Pin 3	IT = 1mA	13.3		
			Pin 3 to Pin 1 and Pin3 to Pin 2	IT = 1mA	7.7		
Clamping Voltage	V_C (2)	V	Pin 1 to Pin 3 and Pin2 to Pin 3	I_{PP} = 1A(8/20μs pulse)			19
			Pin 3 to Pin 1 and Pin3 to Pin 2	I_{PP} = 1A(8/20μs pulse)			11
Clamping Voltage	V_C (2)	V	Pin 1 to Pin 3 and Pin2 to Pin 3	I_{PP} = 30A(8/20μs pulse)			25
Clamping Voltage	V_C (2)	V	Pin 3 to Pin 1 and Pin3 to Pin 2	I_{PP} = 38A(8/20μs pulse)			17
Junction Capacitance	C_J	pF	Pin 1 to Pin 3 and Pin2 to Pin 3	VR = 0V, f = 1MHz			75
			Pin 3 to Pin 1 and Pin3 to Pin 2	VR = 0V, f = 1MHz			75
Junction Capacitance	C_J	pF	Pin 1 to Pin 3 and Pin2 to Pin 3	VR = V_{RWM}, f = 1MHz			38
			Pin 3 to Pin 1 and Pin3 to Pin 2	VR = V_{RWM}, f = 1MHz			55

(1).Other voltages available upon request.
(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

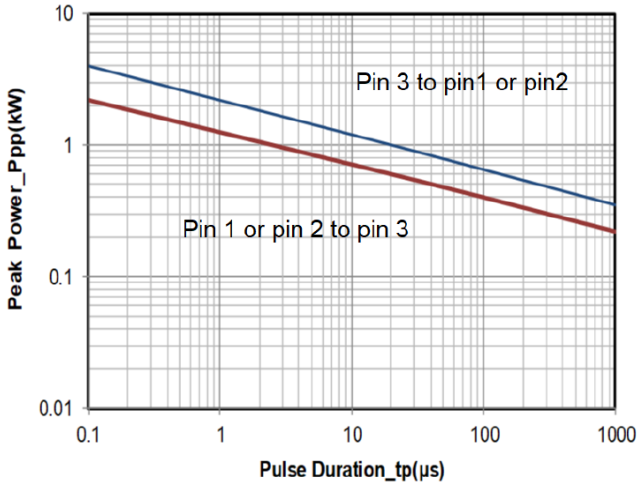
■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	ASM712H
Thermal Resistance(Typical)	$R_{\theta J-A}$	℃/W	357
	$R_{\theta J-C}$	℃/W	143

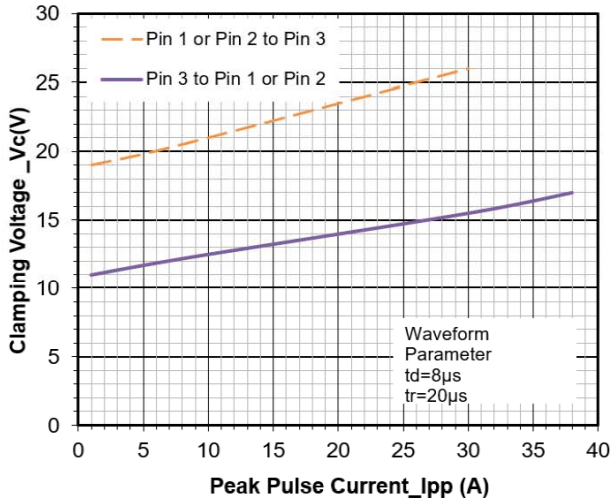
■ Characteristics (Typical)



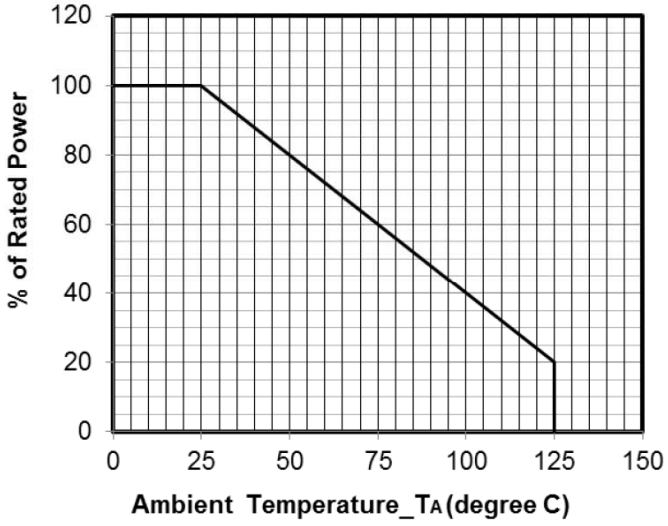
Junction Capacitance vs. Reverse Voltage



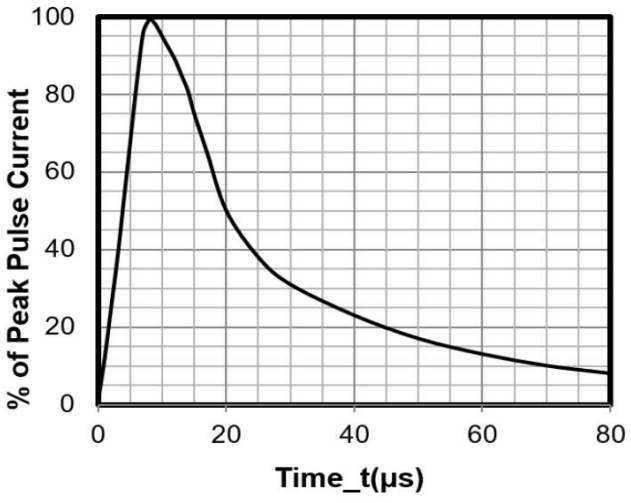
Peak Pulse Power vs. Pulse Time



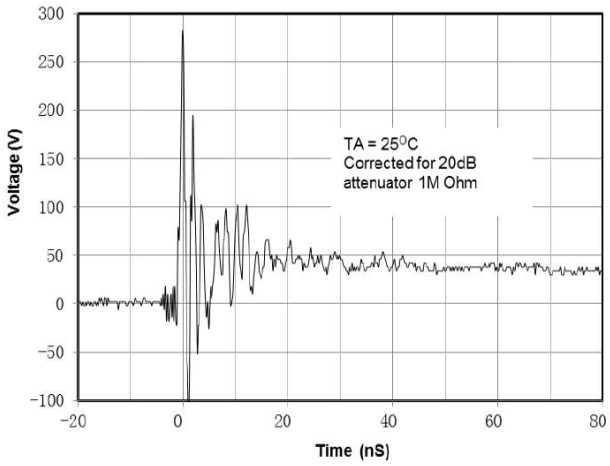
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve

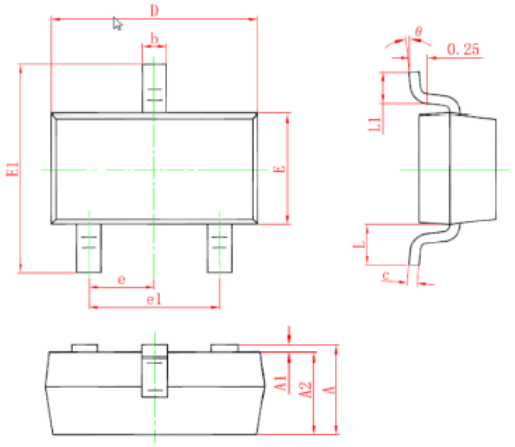


8 X 20μs Pulse Waveform



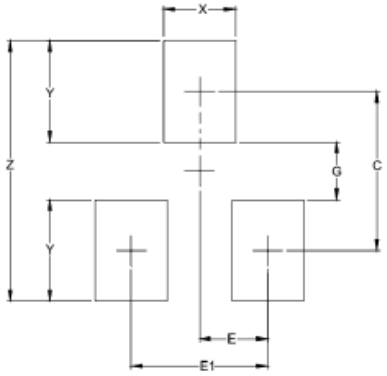
ESD Clamping Voltage
8 kV Contact per IEC61000−4−2

■ Outline Dimensions



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90	--	1.15	0.035	--	0.045
A1	0.00	--	0.10	0.000	--	0.004
A2	0.90	--	1.05	0.035	--	0.041
b	0.30	--	0.50	0.012	--	0.020
c	0.08	--	0.15	0.003	--	0.006
D	2.80	--	3.00	0.110	--	0.118
E	1.20	--	1.40	0.047	--	0.055
E1	2.25	--	2.55	0.089	--	0.100
e	0.95TYP			0.037TYP		
e1	1.80	--	2.00	0.071	--	0.079
L	0.55REF			0.022REF		
L1	0.30	--	0.50	0.012	--	0.020
θ	0°	--	8°	0°	--	8°

■ Soldering Footprint



SYM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.087)	(2.20)
E	.037	0.95
E1	.075	1.90
G	.031	0.80
X	.039	1.00
Y	.055	1.40
Z	.141	3.60

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