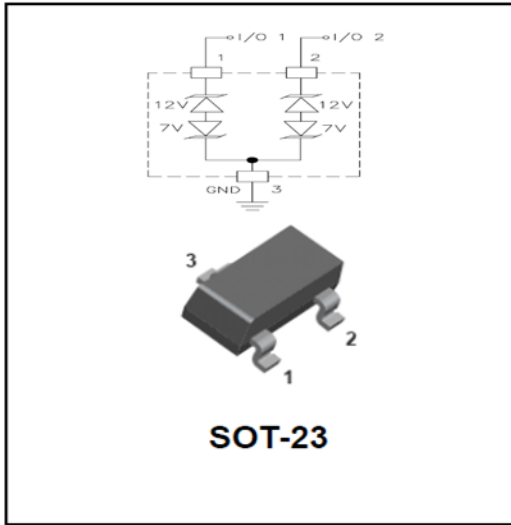
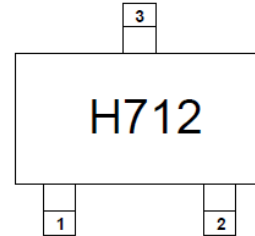


ESD Protection Diode



Features

- Low clamping voltage
- Low leakage
- Operating voltage: 7V or 12V
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking:H712



■Maximum Ratings

PARAMETER	SYMBOL	VALUE	UNIT	
Operating Junction	T_J	-55 to +125	°C	
Storage Temperature	T_{STG}	-55 to +150	°C	
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.



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■Electrical Characteristics (T_a=25°C 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	μA	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	7.5		
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.

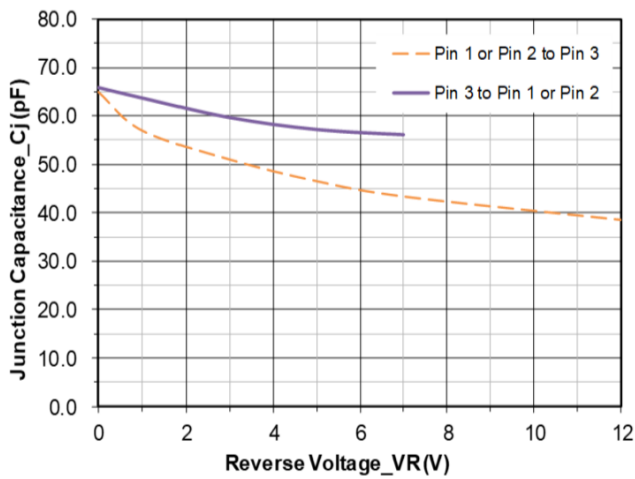
(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

■Thermal Characteristics (T_a=25°C Unless otherwise specified)

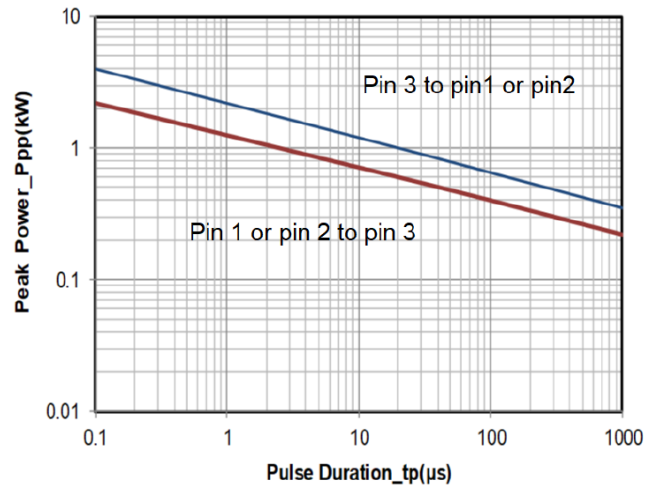
PARAMETER	SYMBOL	UNIT	ASM712H
Thermal Resistance(Typical)	R _{θJ-A}	°C/W	357
	R _{θJ-C}	°C/W	143



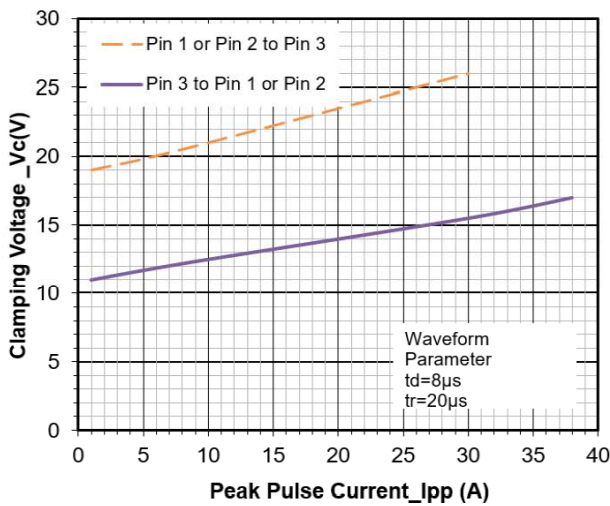
■ Characteristics (Typical)



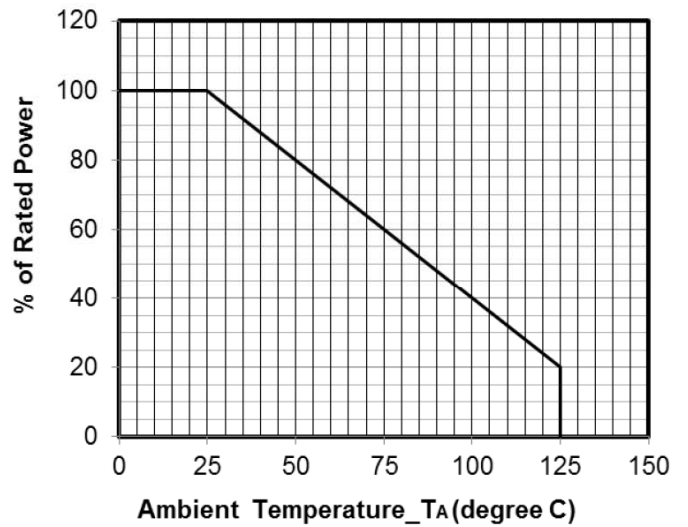
Junction Capacitance vs. Reverse Voltage



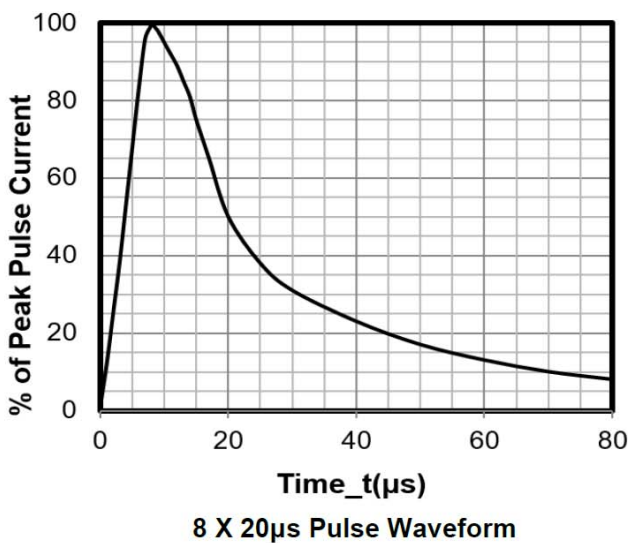
Peak Pulse Power vs. Pulse Time



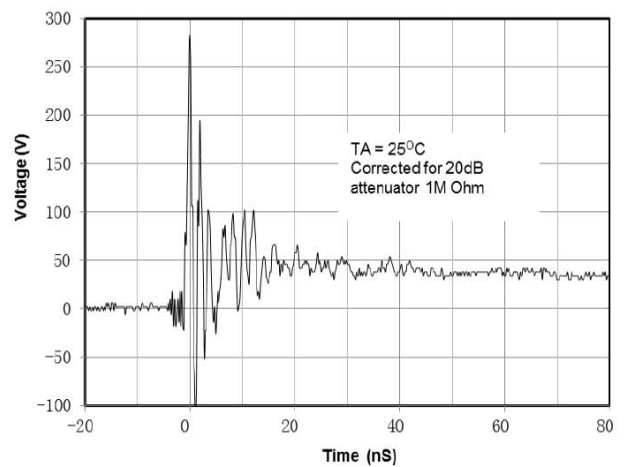
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20 μs Pulse Waveform

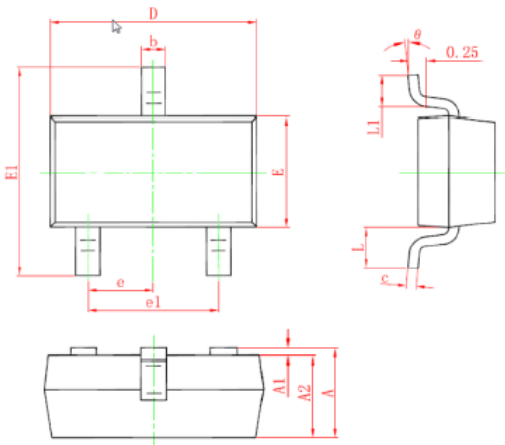


ESD Clamping Voltage
8 kV Contact per IEC61000-4-2



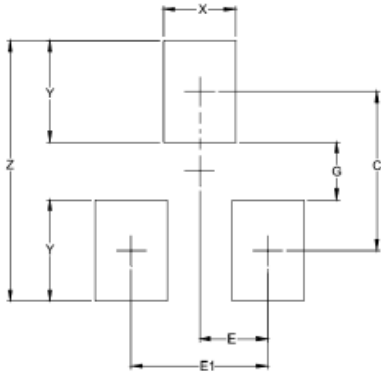
ASM712H

■ 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



ASM712H

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