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ESD Protection Array

CSRS065V0-G/CSRS045V0-G/CSRS085V0-G

Working Voltage: 5Volts
 RoHS Device
 Features

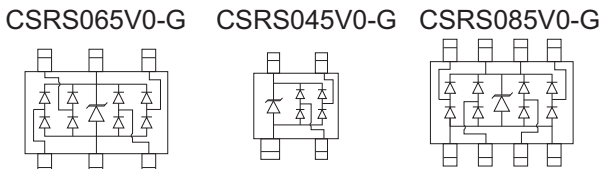


- Fast Reverse Recovery Time.
- Fast Turn on Time.
- Low Capacitance SMD Packages.
- 16kV IEC61000-4-2 capable.

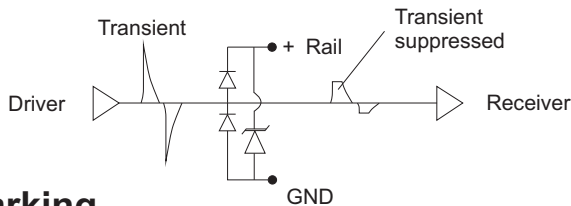
Mechanical Data

- Case: SOT-23-6 for CSRS065V0-G,
- SOT-143 for CSRS045V0-G,
- SOIC-8 for CSRS085V0-G.

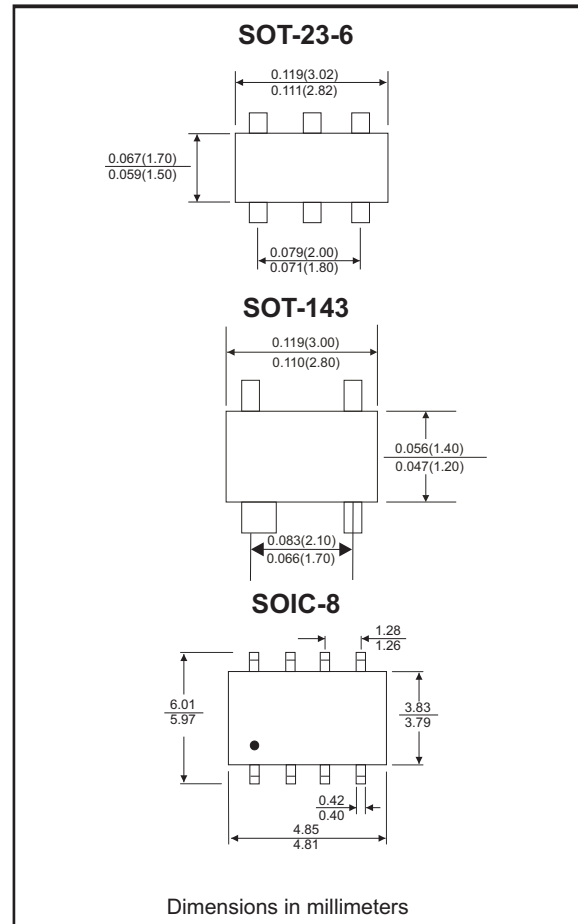
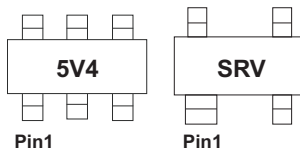
Circuit Diagram



Applications



Marking



Maximum Rating (at TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating temperature	T _J	-55 to +150	°C

Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Max.	Unit
Forward voltage	I _F =50mA	V _F		1.2	V
Reverse stand-off voltage		V _{RWM}		5	V
Diode breakdown voltage	I _R =1μA	V _{BD}	6		V
Reverse leakage current	V _{RWM} =5V	I _R		5	μA
Junction capacitance	f=1MHz, V _R =0V, Line to ground f=1MHz, V _R =0V, Line to Line	C _T		5	pF
ESD capability	IEC 61000-4-2	ESD		16	kV
Peak pulse power	T _P =8/20 μS	PPP		300	W

ESD Protection Array



Rating and Characteristic Curves (CSRS-G Series)

Fig.1 Pulse Power vs. Time

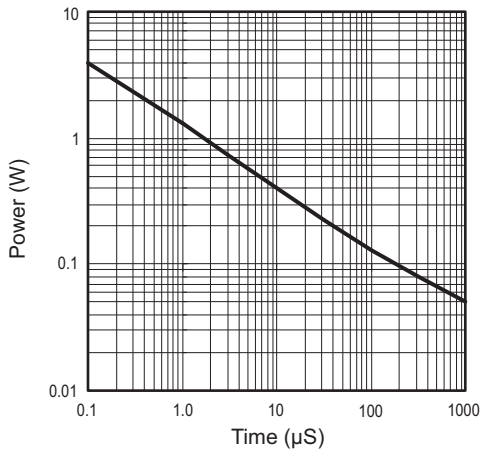


Fig.2 Power Derating

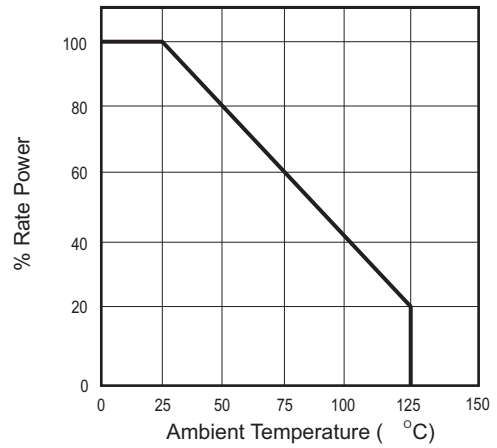


Fig.3 Pulse Waveform

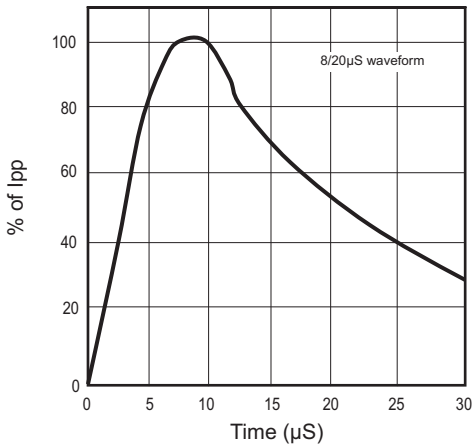


Fig.4 Clamp Voltage vs. Pulse Current

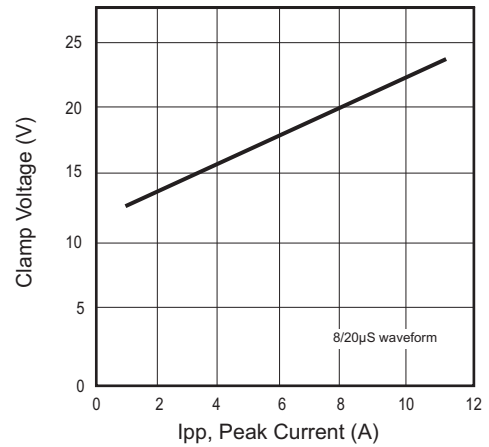


Fig.5 Forward Voltage vs. Forward Current

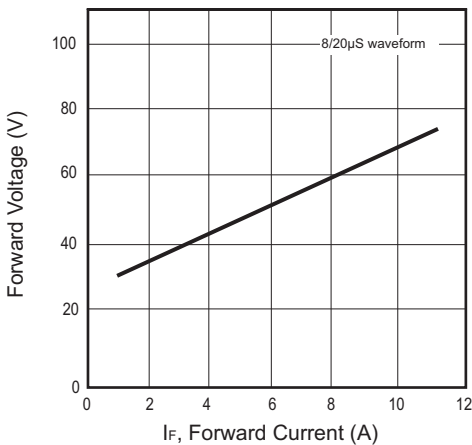
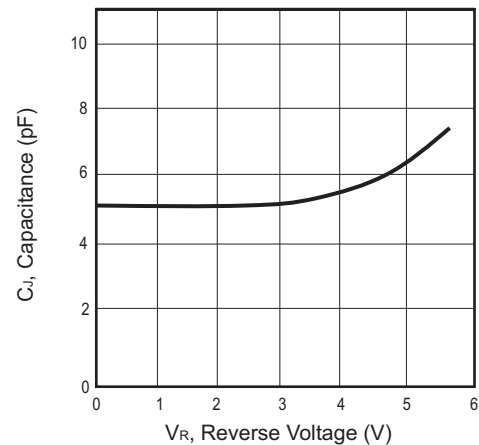


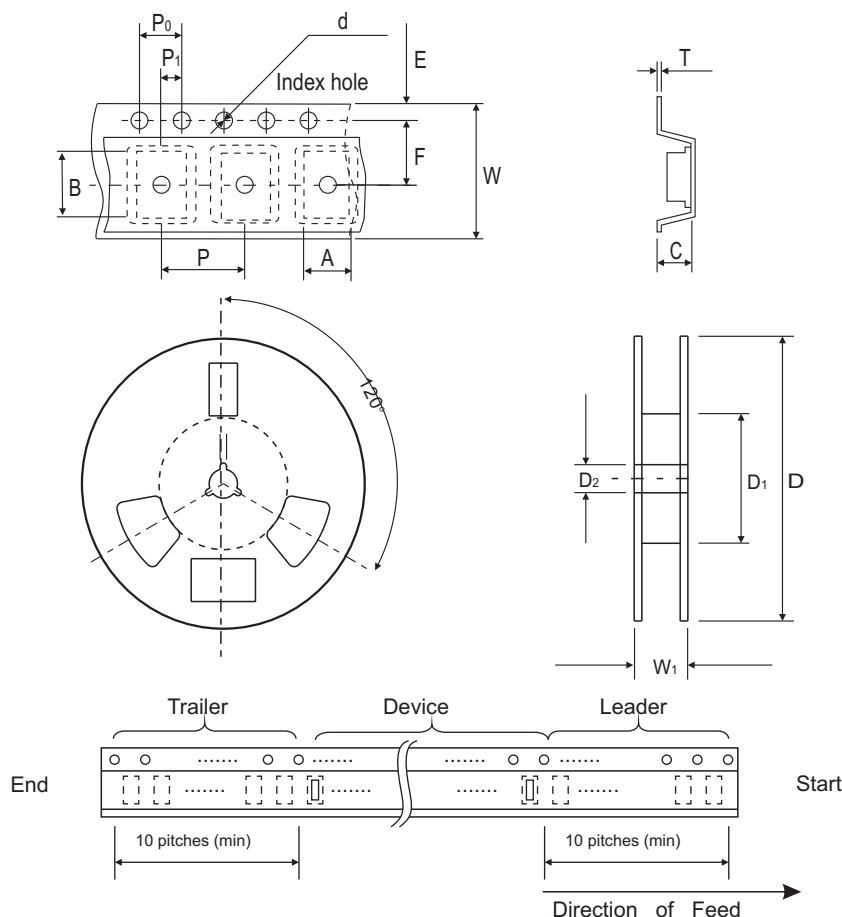
Fig.6 Capacitance vs. Reverse Voltage



ESD Protection Array



Reel Taping Specification



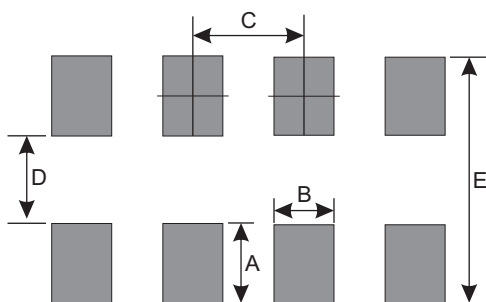
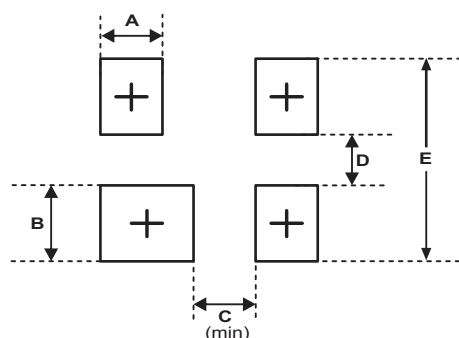
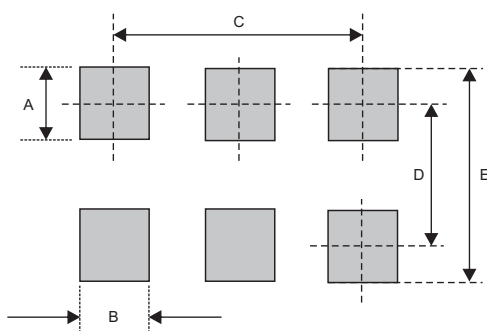
	SYMBOL	A	B	C	d	D	D ₁	D ₂
SOT-23-6	(mm)	3.17 ± 0.10	3.23 ± 0.10	1.37 ± 0.10	1.55 ± 0.10	178 ± 1	50.0 MIN.	13.0 ± 0.20
	(inch)	0.124 ± 0.004	0.127 ± 0.004	0.054 ± 0.004	0.061 ± 0.004	7.008 ± 0.040	1.969 MIN.	0.512 ± 0.008
SOT-143	(mm)	3.19 ± 0.10	2.80 ± 0.10	1.31 ± 0.20	1.55 ± 0.05	178 ± 1	50.0 MIN.	13.0 ± 0.20
	(inch)	0.126 ± 0.004	0.110 ± 0.004	0.052 ± 0.008	0.061 ± 0.002	7.008 ± 0.04	1.969 MIN.	0.512 ± 0.008
SOIC-8	(mm)	6.50 ± 0.10	5.30 ± 0.10	2.50 ± 0.20	1.50 ± 0.10	330 ± 1	50.0 MIN.	13.5 ± 1
	(inch)	0.256 ± 0.004	0.209 ± 0.004	0.098 ± 0.008	0.059 ± 0.004	12.992 ± 0.04	1.969 MIN.	0.531 ± 0.04

	SYMBOL	E	F	P	P ₀	P ₁	T	W	W ₁
SOT-23-6	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.22 ± 0.05	8.00 ± 0.30	14.4 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.002	0.315 ± 0.012	0.567 MAX.
SOT-143	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.22 ± 0.05	8.00 ± 0.20	14.4 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.008 ± 0.002	0.315 ± 0.008	0.567 MAX.
SOIC-8	(mm)	1.75 ± 0.10	5.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.22 ± 0.05	12.0 ± 0.20	18.4 MAX.
	(inch)	0.069 ± 0.004	0.217 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.008 ± 0.002	0.472 ± 0.008	0.724 MAX.

ESD Protection Array

Suggested PAD Layout

SIZE	SOT-23-6		SOT-143		SOIC-8	
	(mm)	(inch)	(mm)	(inch)	(mm)	(inch)
A	1.10	0.043	0.70	0.028	2.40	0.094
B	0.60	0.024	1.40	0.055	0.70	0.028
C	0.95	0.037	2.41	0.095	1.27	0.050
D	2.50	0.098	0.80	0.031	2.50	0.098
E	3.60	0.142	3.60	0.142	7.30	0.287



Standard Package

Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
SOT-23-6	3000	7
SOT-143	3000	7
SOIC-8	2500	13