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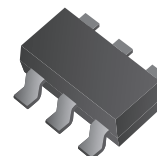
sales@integrated-circuit.com

Low Capacitance ESD Protection Array



CSRS065V0P

RoHs Device



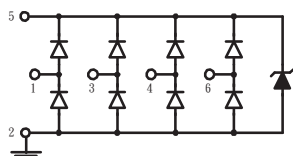
Features

- ESD Protect for 4 high-speed I/O channels.
- IEC61000-4-2 Level 4 ESD protection.
- IEC61000-4-4 (FET)20A for I/O,80A for Power.
- Working voltage: 5V
- Low capacitance:1.3pF(Typ.).
- High component density.

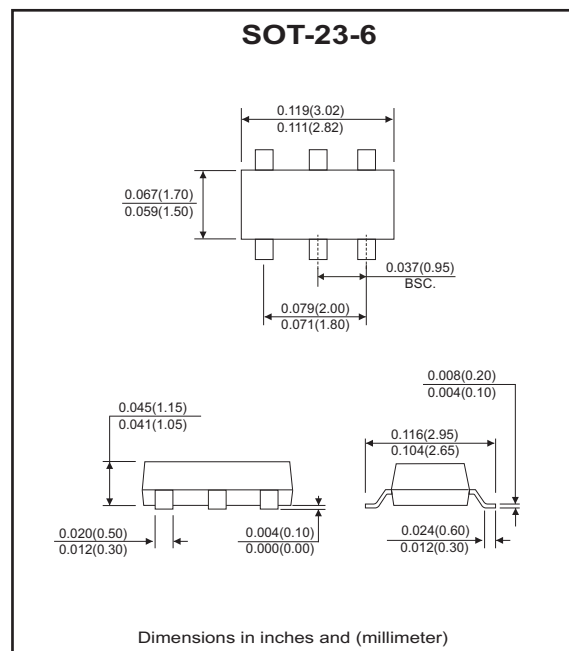
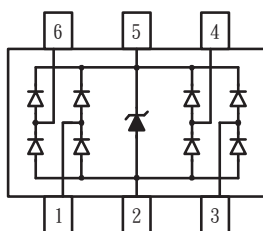
Mechanical data

- Case: SOT-23-6 standard package, molded plastic.
- Terminals: Solder plated, solderable per MIL-STD-750,method 2026.
- Mounting position: Any
- Weight: 0.015 gram (approx.).

Circuit Diagram



Pin Configuration



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

Parameter	Symbol	Value	Unit
Peak pulse current (tp = 8/20 us)	I _{PP}	6.5	A
ESD per IEC 61000-4-2(Air)	ESD	18	kV
ESD per IEC 61000-4-2(Contact)		14	
ESD per IEC 61000-4-2(Air)(VDD-GND)	ESD _{VDD}	30	kV
ESD per IEC 61000-4-2(Contact)(VDD-GND)			
Lead soldering temperature	T _{SOL}	260 (10 sec)	°C
Operating temperature	T _J	-55 to +85	°C
Storage temperature	T _{STG}	-55 to +125	°C
DC voltage at any I/O pin	V _{IO}	(GND -0.5) to (VDD +0.5)	V

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand-Off voltage	Pin 5 to Pin 2	V _{RWM}			5	V
Reverse leakage current	V _{RWM} = 5 V, Pin 5 to Pin 2	I _R			5	uA
	V _{PIN 5} = 5 V, V _{PIN 2} = 0V, V _{IO} = 0~5V				1	
Diode breakdown voltage	I _R = 1 mA, Pin 5 to Pin 2	V _{BD}	6		9	V
Forward voltage	I _F = 15 mA, Pin 2 to Pin 5	V _F		0.8	1	V
Clamping voltage	I _{PP} = 5 A, tp=8/20us, Any Channel Pin to Ground	V _C		8.1	9	V
	IEC 61000-4-2 +6kV,Contact mode Any Channel Pin to Ground			12.5		
	IEC 61000-4-2 +6kV,Contact moed VDD Pin to Ground			9		
Junction capacitance	V _{pin5} = 5V,V _{pin2} = 0V, V _{IO} =2.5V, f = 1MHz,Any Channel Pin to Ground	C _j		1.3	1.6	pF
	V _{pin5} = 5V,V _{pin2} = 0V, V _{IO} =2.5V f = 1MHz,Between Channel Pins			0.12	0.14	
	V _{pin5} = 5V,V _{pin2} = 0V, V _{IN} =2.5V f = 1MHz,Channel_x pin to ground - channel_y pin to ground			0.05	0.07	

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RATING AND CHARACTERISTIC CURVES (CSRS065V0P)

Fig. 1 - Power derating curve

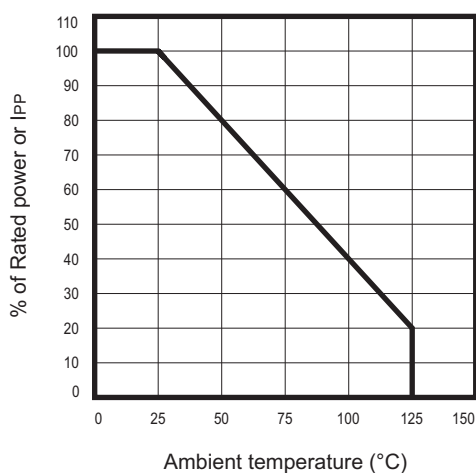


Fig. 2 - Clamping voltage vs. Peak pulse current

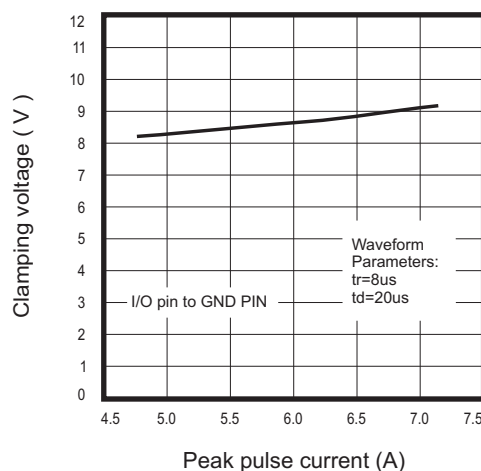


Fig.3 - Forward voltage v.s. forward current

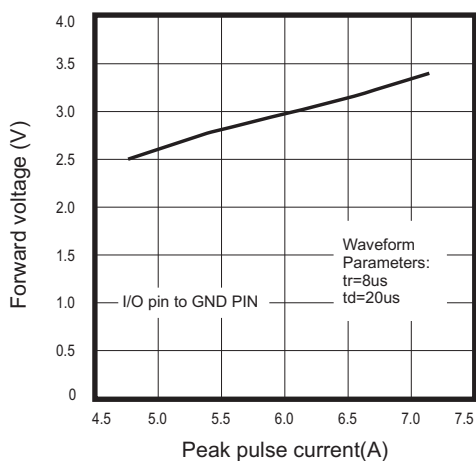


Fig.4 - Typical variation of CIN v.s. VIN

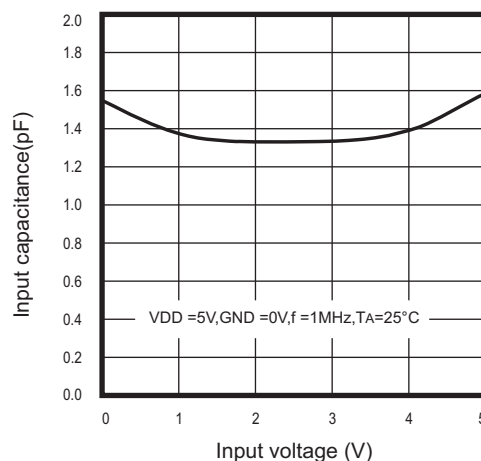


Fig. 5 - Typical variation of CIN v.s. temperature

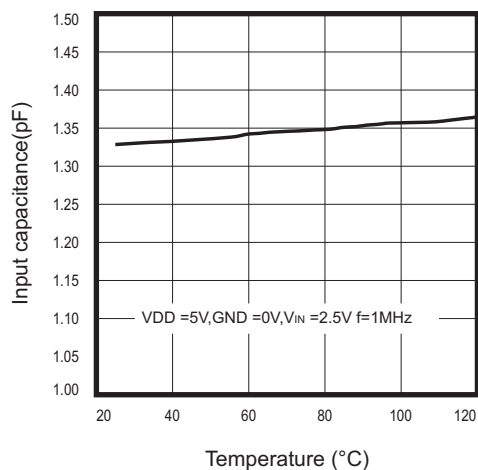


Fig. 6 - Transmission line pulsing (TLP) measurement

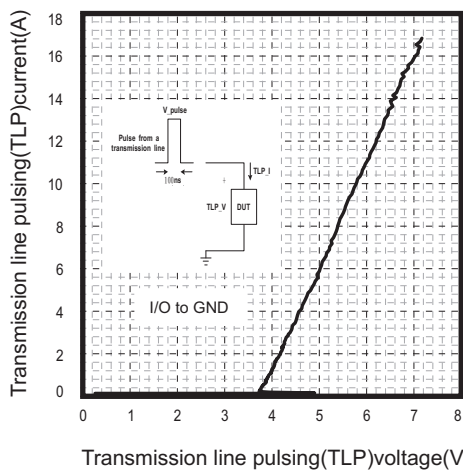
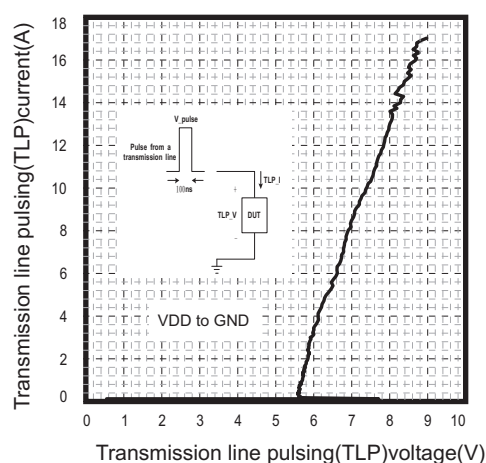
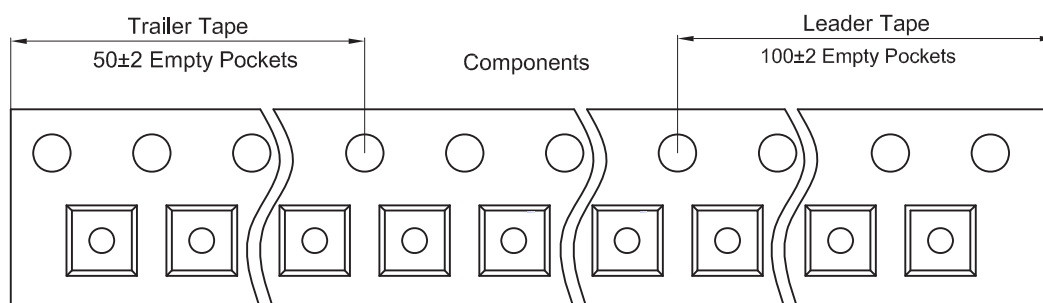
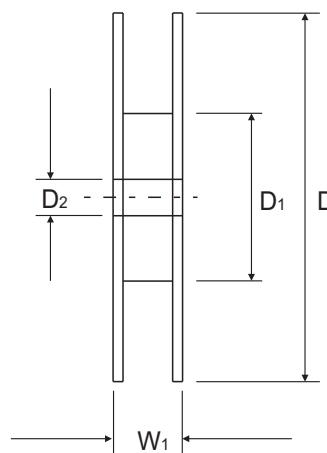
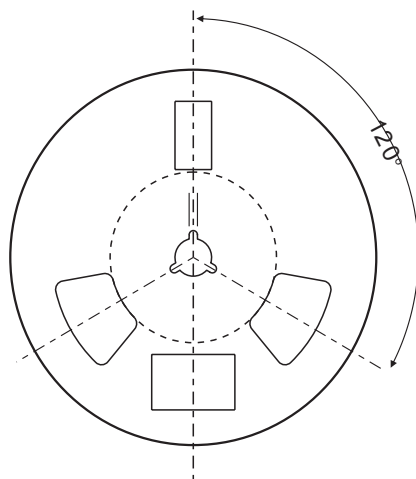
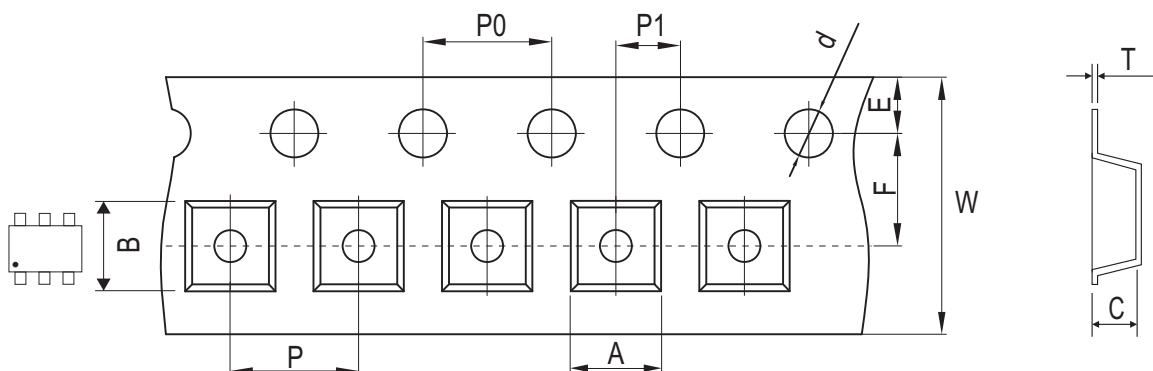


Fig.7 -Transmission line pulsing (TLP) measurement



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Reel Taping Specification



SOT-23-6	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.17 ± 0.10	3.23 ± 0.10	1.37 ± 0.10	1.50 ± 0.05	$180.0 + 0.00 / - 0.30$	60.00 ± 0.50	13.00 ± 0.20
	(inch)	0.125 ± 0.004	0.127 ± 0.004	0.054 ± 0.004	0.059 ± 0.002	$7.087 + 0.00 / - 0.012$	2.362 ± 0.020	0.512 ± 0.008

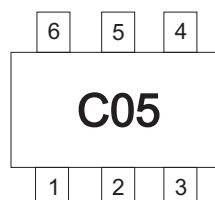
SOT-23-6	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	$8.00 + 0.30 / - 0.10$	12.30 ± 0.20
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	$0.315 + 0.012 / - 0.004$	0.484 ± 0.008

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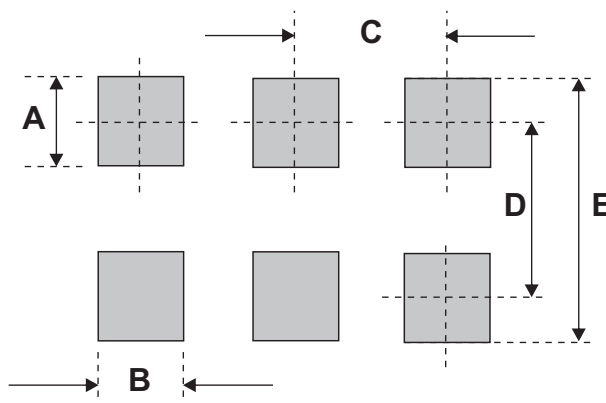
Marking Code

Part Number	Marking Code
CSRS065V0P	C05



Suggested PAD Layout

SIZE	SOT-23-6	
	(mm)	(inch)
A	1.10	0.043
B	0.60	0.024
C	0.95	0.037
D	2.50	0.098
E	3.60	0.142



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-23-6	3,000	7