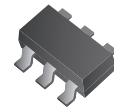


CSRS045V0P

RoHs Device



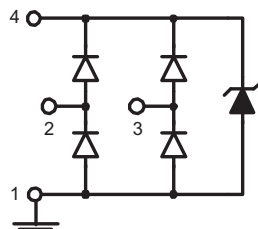
Features

- ESD Protected for 2 high speed I/O ports
- IEC61000-4-2 (ESD) $\pm 8\text{kV}$ (Contact), $\pm 15\text{kV}$ (Air).
- IEC61000-4-4 (FET)(5/50ns) Level-3, 20A for I/O 40A for Power.
- IEC61000-4-5 (Lightning) 6A(8/20uS)
- Working voltage: 5V
- Low capacitance: 1.2pF(Typ.).
- Fast turn-on and Low clamping voltage.

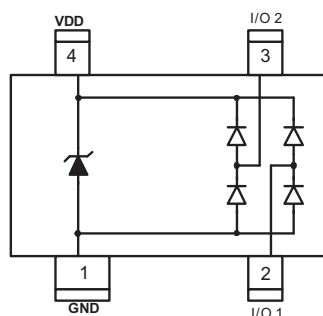
Mechanical data

- Case: SOT-23-6L standard package, molded plastic.
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026.

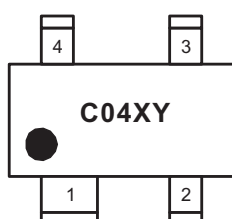
Circuit Diagram



Pin Configuration

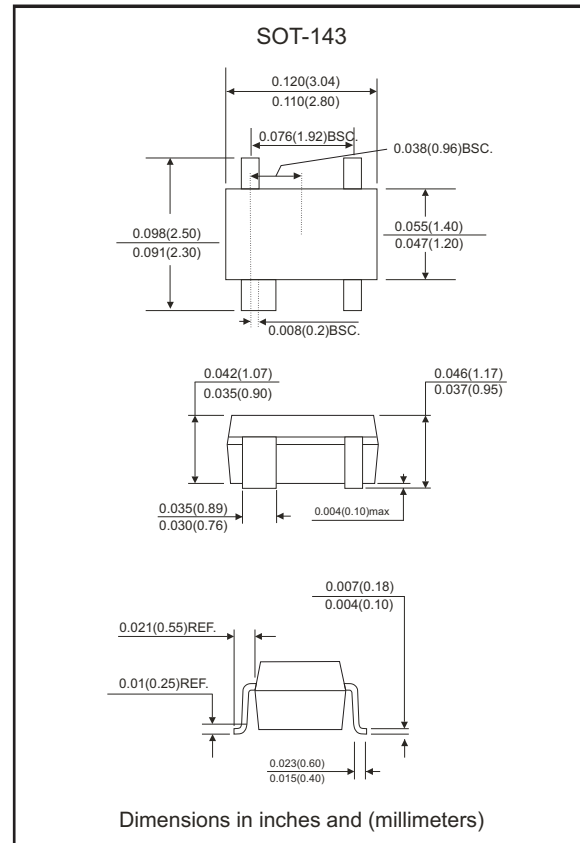


Marking Code

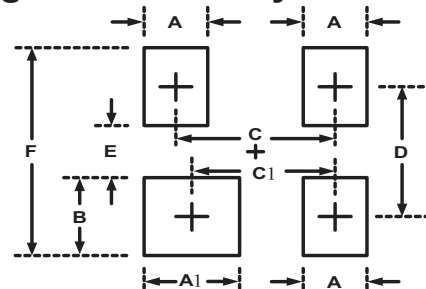


Park Number	Marking Code
CSRS045V0P	C04XY

C05 = Device code
X = Date Code
Y = Control Code



Suggested Pad Layout



SIZE	SOT-143	
	(mm)	(inch)
A	1.00	0.024
A1	1.40	0.055
B	1.40	0.055
C	1.92	0.076
C1	1.72	0.068
D	2.20	0.087
E	0.80	0.031
F	3.60	0.141

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

Parameter	Symbol	Value	Unit
Peak pulse current (tp = 8/20 us)	I _{PP}	6	A
Operating supply voltage	V _{DC}	6	V
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact)	V _{ESD}	17 12	kV
ESD per IEC 61000-4-2(Air)(VDD-GND) ESD per IEC 61000-4-2(Contact)(VDD-GND)	V _{ESD_VDD}	30 30	kV
Lead soldering temperature	T _{SOL}	260 (10 sec)	°C
Operating temperature	T _j	-55 to +85	°C
Storage temperature	T _{STG}	-55 to +150	°C
DC voltage at any I/O pin	V _{IO}	(GND -0.5) to (VDD +0.5)	V

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand-Off voltage	Pin 4 to Pin 1	V _{RWM}			5	V
Reverse leakage current	V _{RWM} = 5 V, Pin 4 to Pin 1	I _R			2	uA
Channel leakage current	V _{PIN 4} = 5 V, V _{PIN 1} = 0V	I _{CH_R}			1	uA
Reverse breakdown voltage	I _{BV} = 1 mA, Pin 4 to Pin 1	V _{BR}	6.2			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 _{CL}		8.1	9	V
ESD Holding Voltage	IEC 61000-4-2 +6kV,Contact mode Any channel pin to ground	V _{HOLD}		13		V
Channel input capacitance	V _{pin4} = 5V,V _{pin1} = 0V, V _{IN} =2.5V, f = 1MHz,Any channel pin to ground	C _{IN}		1.2	1.4	pF
Channel to channel input capacitance	V _{pin4} = 5V,V _{pin1} = 0V, V _{IN} =2.5V f = 1MHz,Between channel pin	C _{CROSS}		0.1	0.12	pF
Variation of channel input capacitance	V _{pin4} = 5V,V _{pin1} = 0V, V _{IN} =2.5V f = 1MHz,Channel_x pin to ground - channel_y pin to ground	ΔC _{IN}		0.04	0.06	pF

RATING AND CHARACTERISTIC CURVES (CSRV045V0P)

Fig. 1 - Power derating curve

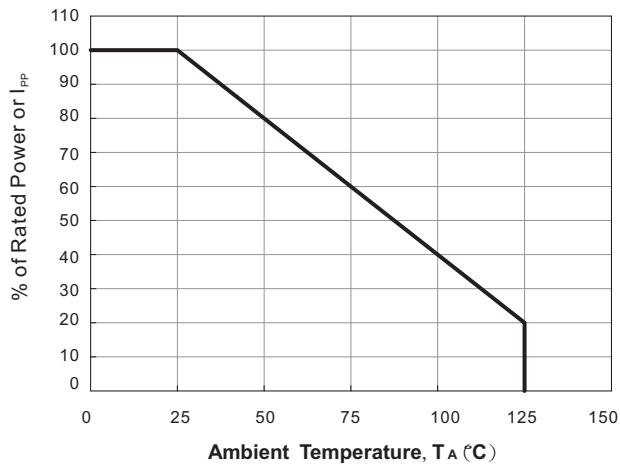


Fig. 2 - Clamping voltage vs. Peak pulse current

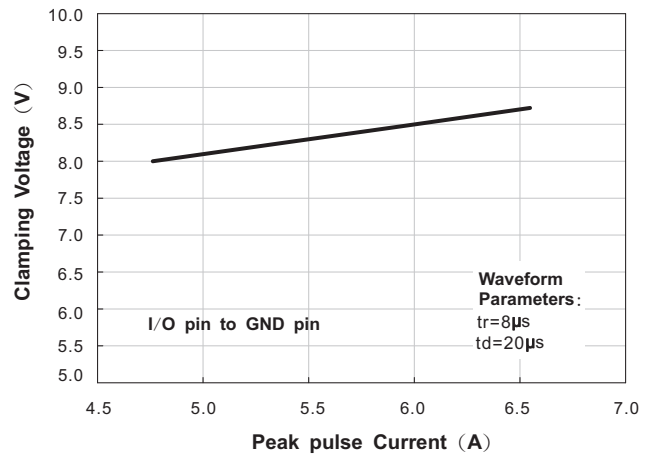


Fig.3 - Forward voltage v.s. forward current

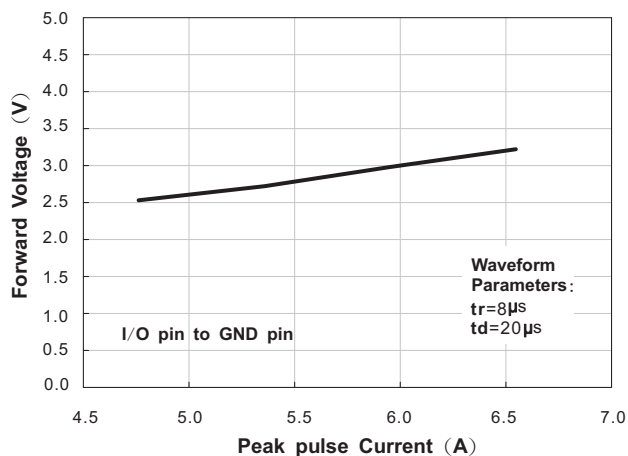


Fig.4 - Typical variation of C_{IN} v.s. V_{IN}

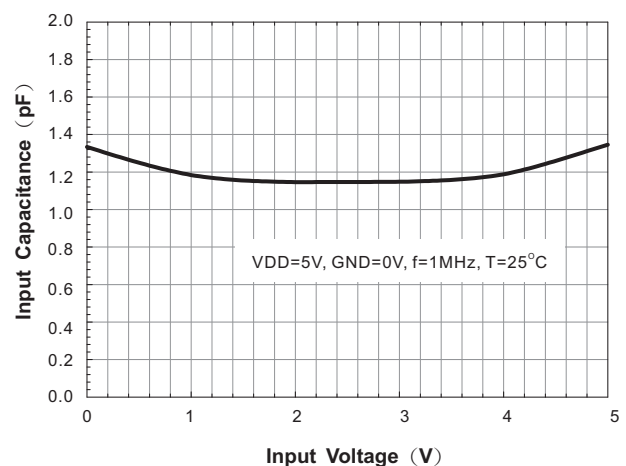


Fig. 5 - Typical variation of C_{IN} v.s. temperature

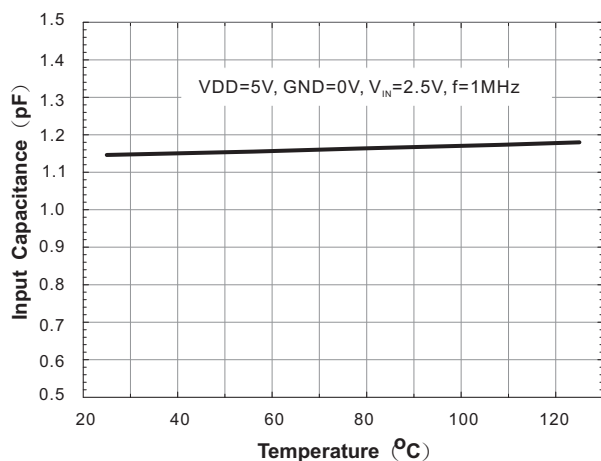


Fig. 6 - Transmission line pulsing (TLP) measurement

