

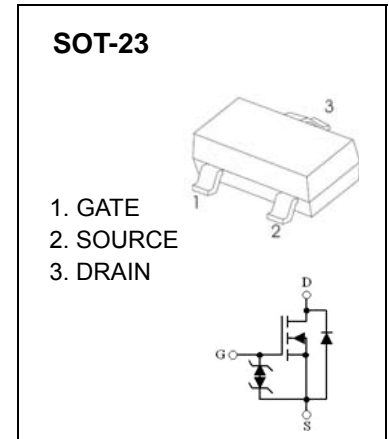


SOT-23 Plastic-Encapsulate MOSFETS

CJ8820 N-Channel Enhancement Mode Field Effect Transistor

DESCRIPTION

The CJ8820 use advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. It is ESD protected. This device is suitable for use as a uni-directional or bi-directional load switch, facilitated by its common-drain configuration.



Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Units
Drain-source voltage	V_{DS}	20	V
Gate-source voltage	V_{GS}	± 12	V
Continuous drain current ($t \leq 10\text{s}$)	I_D	7	A
Pulsed drain current *	I_{DM}	25	A
Power dissipation	P_D	0.3	W
Thermal resistance from junction to ambient	$R_{\theta JA}$	417	$^{\circ}\text{C/W}$
Junction temperature	T_J	150	$^{\circ}\text{C}$
Storage temperature	T_{stg}	-55~ 150	$^{\circ}\text{C}$

* Repetitive rating : Pulse width limited by junction temperature.

Electrical characteristics (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = 16V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V			±10	μA
Gate threshold voltage (note 1)	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.5		1.1	V
Drain-source on-resistance (note 1)	R _{DSON}	V _{GS} = 10V, I _D = 7A			21	mΩ
		V _{GS} = 4.5V, I _D = 6.6A			24	mΩ
		V _{GS} = 3.6V, I _D = 6A			28	mΩ
		V _{GS} = 2.5V, I _D = 5.5A			32	mΩ
		V _{GS} = 1.8V, I _D = 2A			50	mΩ
Forward tranconductance (note 1)	g _{FS}	V _{DS} = 5V, I _D = 7A		20		S
Diode forward voltage(note 1)	V _{SD}	I _S = 1A, V _{GS} = 0V			1	V
SWITCHING PARAMETERS (note 2)						
Turn-on delay time	t _{d(on)}	V _{GS} = 5V, V _{DS} = 10V, R _L = 1.4Ω, R _{GEN} = 3Ω		7		ns
Turn-on rise time	t _r			13		ns
Turn-off delay time	t _{d(off)}			29		ns
Turn-off fall time	t _f			11		ns
Total Gate Charge	Q _g	V _{DS} = 10V, V _{GS} = 4.5V, I _D = 7A			12	nC
Gate-Source Charge	Q _{gs}			1.2		nC
Gate-Drain Charge	Q _{gd}			3		nC

Notes :

1. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 0.5%.
2. Guaranteed by design, not subject to production testing.

Typical Characteristics

CJ8820

