



TO-252-2L Plastic-Encapsulate MOSFETS

CJU03N80 N-Channel Power MOSFET

GENERAL DESCRIPTION

The CJU03N80 provide excellent $R_{DS(ON)}$, low gate charge and operation with low gate voltages. This device is suitable for use as a load switch or in PWM applications.

FEATURE

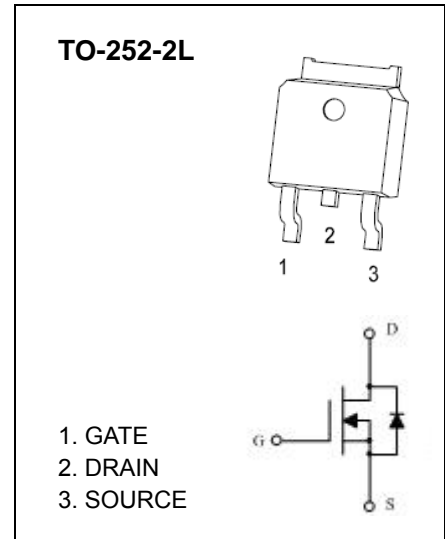
- Excellent package for good heat dissipation
- Ultra low gate charge
- Low reverse transfer capacitance
- Fast switching capability
- Avalanche energy specified

APPLICATION

- Power switching application

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	800	V
Gate-Source Voltage	V_{GS}	± 30	
Continuous Drain Current	I_D	3	A
Pulsed Drain Current	I_{DM}	10	
Single Pulsed Avalanche Energy (note1)	E_{AS}	170	mJ
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	100	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	
Maximum lead temperature for soldering purposes , 1/8"from case for 5 seconds	T_L	260	



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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	800			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =800V, V _{GS} =0V			1	μA
Gate-body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±30V			±10	μA
On characteristics						
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	3		4.5	V
Static drain-source on-resistance	R _{DS(on)}	V _{GS} =10V, I _D =1.5A			4.2	Ω
Forward transconductance (note2)	g _{fs}	V _{DS} =15V, I _D =1.5A		2.1		S
Dynamic characteristics (note 3)						
Input capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f =1MHz		485		pF
Output capacitance	C _{oss}			57		
Reverse transfer capacitance	C _{rss}			11		
Switching characteristics (note 2,3)						
Turn-on delay time	t _{d(on)}	V _{DD} =400V, R _G =4.7Ω, I _D =3A, V _{GS} =10V		17		ns
Turn-on rise time	t _r			27		
Turn-off delay time	t _{d(off)}			36		
Turn-off fall time	t _f			40		
Total Gate Charge	Q _g	V _{DS} =640V, V _{GS} =10V, I _D =3A		19		nC
Gate-Source Charge	Q _{gs}			3.2		nC
Gate-Drain Charge	Q _{gd}			10.8		nC
Drain-Source Diode Characteristics						
Drain-source diode forward voltage	V _{SD}	V _{GS} = 0V, I _S =3A			1.6	V
Continuous drain-source diode forward current	I _S				3	A
Pulsed drain-source diode forward current	I _{SM}				10	A

Notes :

1. L=35mH, I_L=3A, V_{DD}=50V, R_G=25Ω, Starting T_J=25°C.
2. Pulse Test : Pulse width≤300μs, duty cycle ≤2%.
3. Guaranteed by design, not subject to production