

preliminary

CMC26103NE-23

25V N-Channel MOSFET

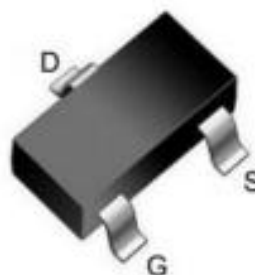
Features

- ESD protected gate
- Trench Power LV MOSFET technology
- Voltage controlled small signal switch
- Low input Capacitance
- Fast switching speed
- Low input / Output Leakage

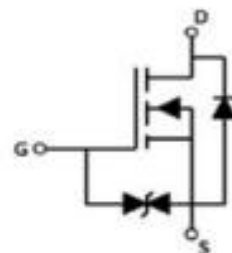
Product Summary

Item	Typical Value	Unit
V_{DS}	25	V
$R_{DS(on)} @ V_{GS} = 4.5V (Max)$	400	$m\Omega$
I_D	0.9	A

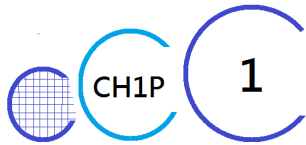
SOT23 Pin Description



SOT-23 top view



Schematic diagram



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Absolute Ratings ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

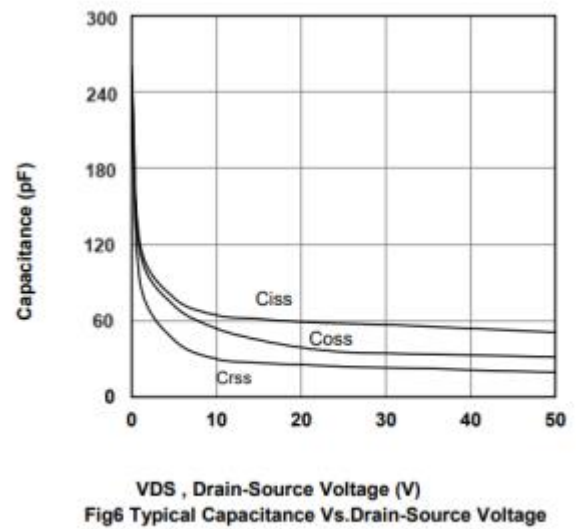
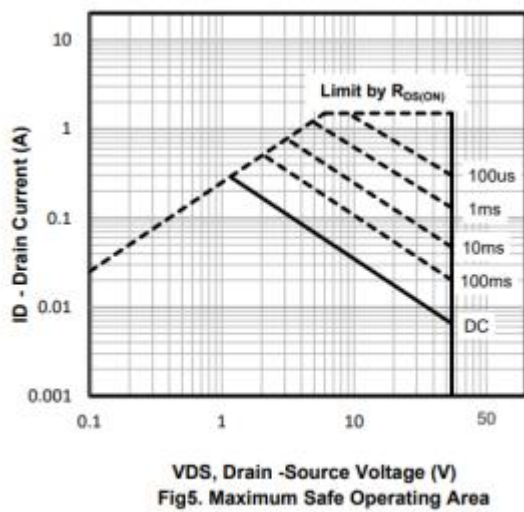
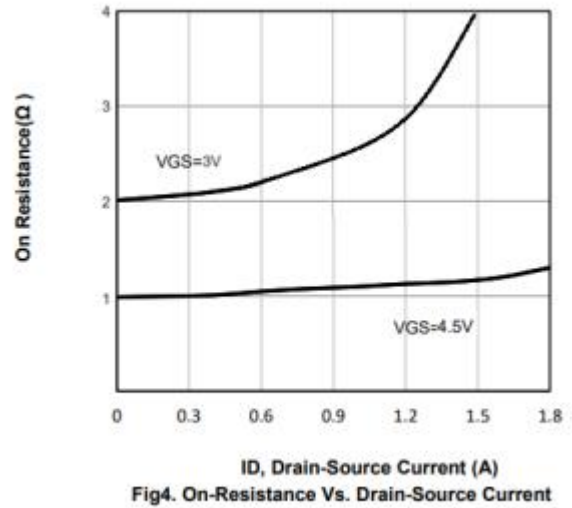
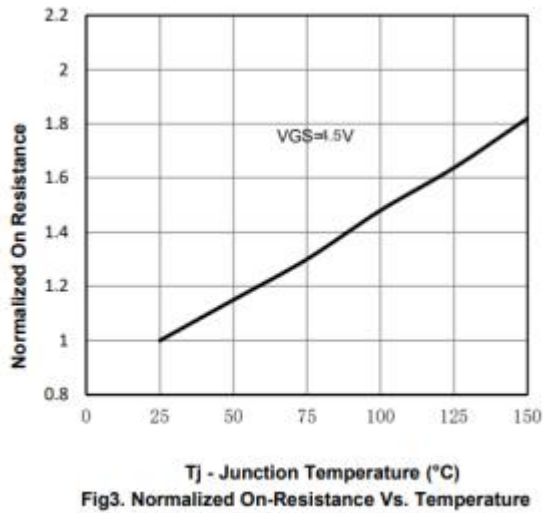
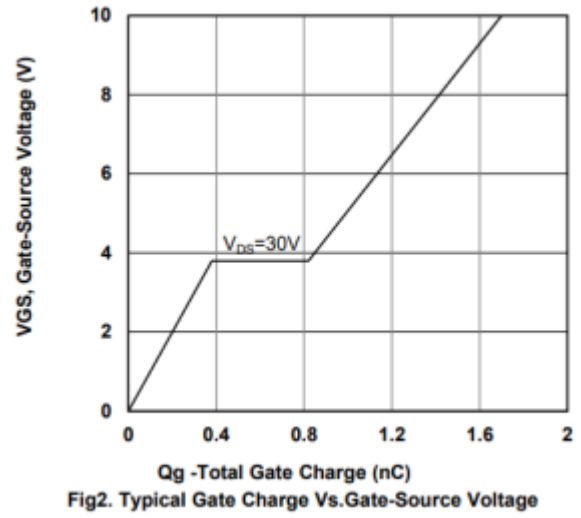
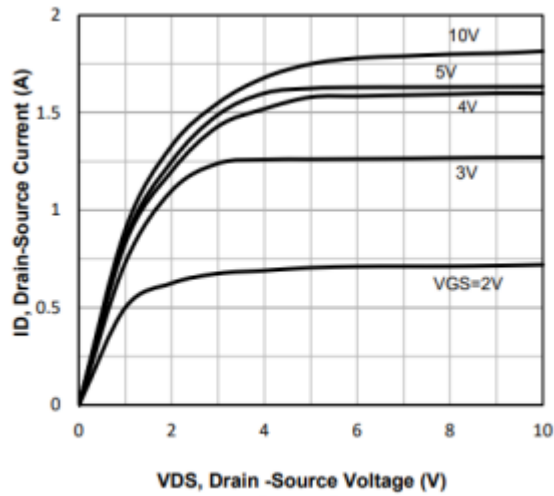
Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	25	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current, $T_C = 25^{\circ}\text{C}$	I_D	0.9	A
Total Power Dissipation	P_D	0.85	W
Junction Temperature Maximum	T_{JMAX}	155	$^{\circ}\text{C}$
Storage Temperature	$T_{Storage}$	-50 to 155	$^{\circ}\text{C}$

Thermal Characteristics

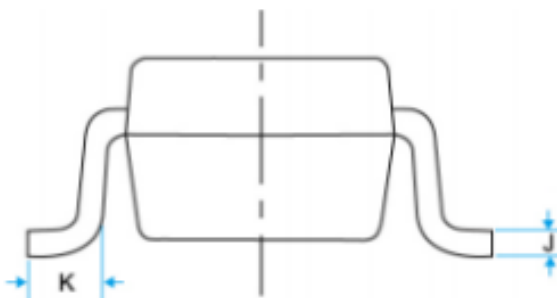
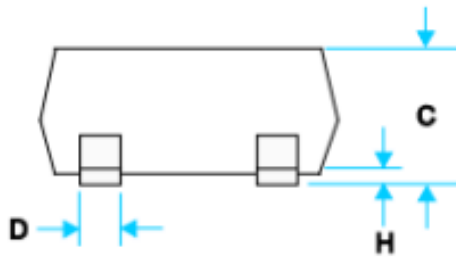
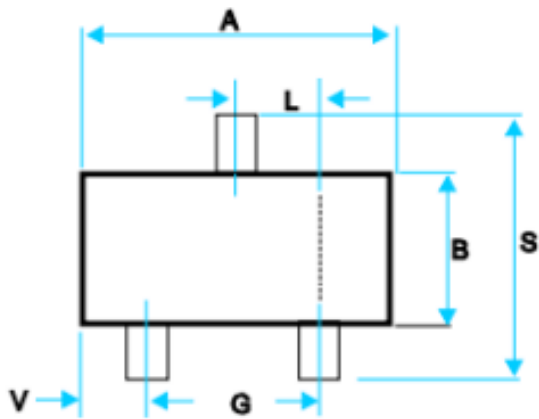
Parameter	Symbol	Value	Units
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$

Electrical Characteristics

Static ($T_J=25^{\circ}\text{C}$ unless otherwise specified)						
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	25	---	---	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 25V, V_{GS} = 0V$	---	---	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$	---	---	± 10	μA
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 0.5A$	---	---	400	$m\Omega$
		$V_{GS} = 2.7V, I_D = 0.5A$	---	---	570	
Gate-Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.6	---	1.5	V
Diode Forward Voltage	V_{SD}	$I_S = 0.1A, V_{GS} = 0V$	---	---	1.2	V
Dynamic ($T_J=25^{\circ}\text{C}$ unless otherwise specified)						
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$	---	50	---	pF
Output Capacitance	C_{oss}		---	16	---	
Reverse Transfer Capacitance	C_{rss}		---	11	---	
Total Gate Charge	Q_g	$V_{DS} = 25V, I_D = 0.3A, V_{GS} = 10V$	---	2.5	---	nC
Gate-Source Charge	Q_{gs}		---	1.1	---	
Gate-Drain Charge	Q_{gd}		---	0.35	---	
Turn-on delay time	$T_{d(on)}$	$V_{DS} = 25V, I_D = 0.2A, V_{GS} = 4.5V, R_G=10\Omega$	---	35	---	nS
Rise time	T_r		---	61	---	
Turn-off delay time	$T_{d(off)}$		---	55	---	
Fall time	T_f		---	35	---	



SOT-23 Package Outline



DIM	MILLIMETERS (mm)	
	MIN	MAX
A	2.800	3.00
B	1.200	1.70
C	0.900	1.30
D	0.350	0.50
G	1.780	2.04
H	0.010	0.15
J	0.085	0.20
K	0.300	0.65
L	0.890	1.02
S	2.100	3.00
V	0.450	0.60