

SMA5104

查询SMA5104供应商

N-channel + P-channel

捷多邦, 专业PCB打样工厂, 24小时加急出货

3-phase motor drive

External dimensions **B** SMA

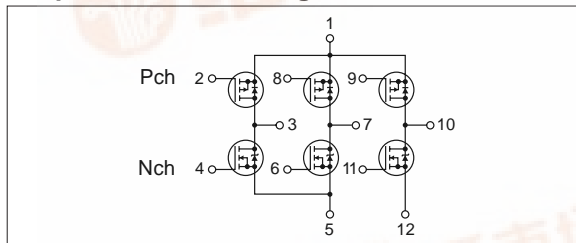
Absolute maximum ratings

(Ta=25°C)

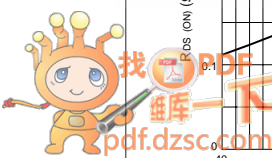
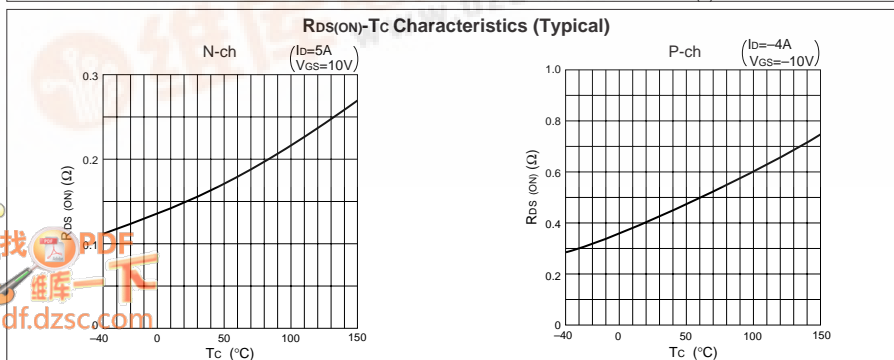
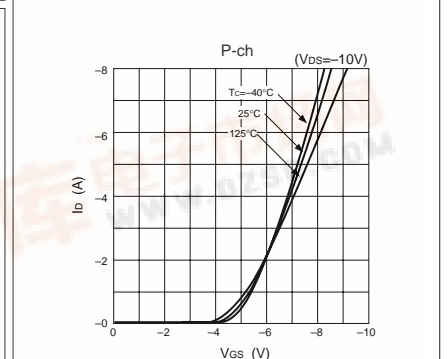
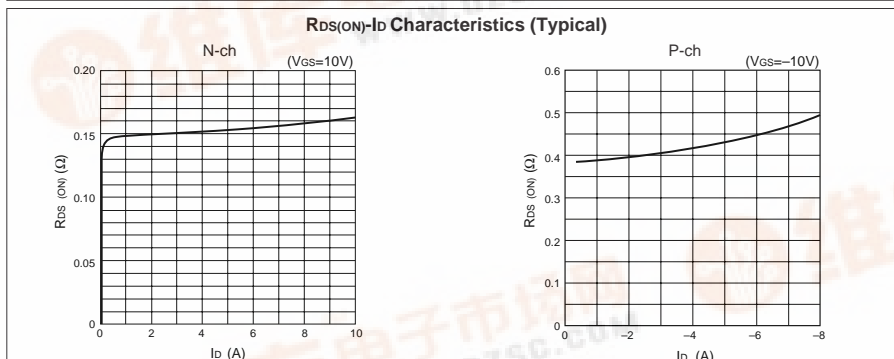
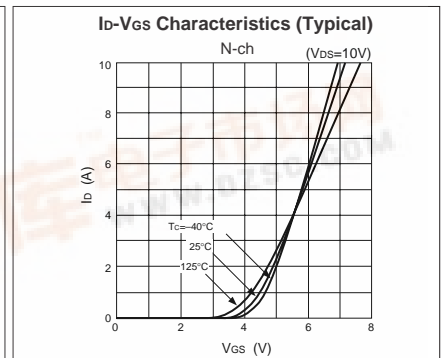
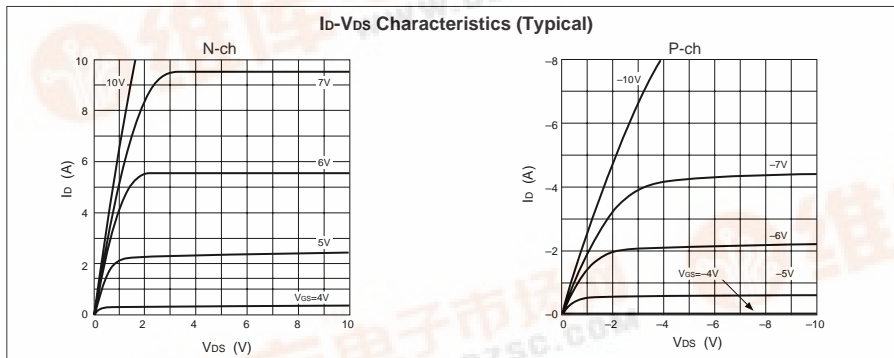
Symbol	Ratings		Unit
	N channel	P channel	
V _{DS}	60	-60	V
V _{GS}	±20	∓20	V
I _D	±5	∓4	A
I _{D(pulse)}	±10 (PW≤1ms)	∓8 (PW≤1ms)	A
E _{AS} *	2	—	mJ
P _T	4 (Ta=25°C, with all circuits operating, without heatsink)		W
	28 (Tc=25°C, with all circuits operating, with infinite heatsink)		W
θ _{J-a}	31.2 (Junction-Air, Ta=25°C, with all circuits operating)		°C/W
θ _{J-c}	4.46 (Junction-Case, Tc=25°C, with all circuits operating)		°C/W
T _{ch}	150		°C
T _{stg}	-40 to +150		°C

*: V_{DD}=20V, L=1mH, I_D=2A, unclamped, see Fig. E on page 15.

Equivalent circuit diagram



Characteristic curves



SMA5104

Electrical characteristics

($T_a=25^\circ\text{C}$)

Symbol	N channel					P channel				
	Specification			Unit	Conditions	Specification			Unit	Conditions
	min	typ	max			min	typ	max		
$V_{(BR)DSS}$	60			V	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	-60			V	$I_D=-250\mu\text{A}, V_{GS}=0\text{V}$
I_{GSS}			± 500	nA	$V_{GS}=\pm 20\text{V}$			∓ 500	nA	$V_{GS}=\mp 20\text{V}$
I_{DSS}			250	μA	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$			-250	μA	$V_{DS}=-60\text{V}, V_{GS}=0\text{V}$
V_{TH}	2.0		4.0	V	$V_{DS}=10\text{V}, I_D=250\mu\text{A}$	-2.0		-4.0	V	$V_{DS}=-10\text{V}, I_D=-250\mu\text{A}$
$Re(f_{ys})$	2.2	3.3		S	$V_{DS}=10\text{V}, I_D=5\text{A}$	1.6	2.2		S	$V_{DS}=-10\text{V}, I_D=-4\text{A}$
$R_{DS(ON)}$		0.17	0.22	Ω	$V_{GS}=10\text{V}, I_D=5\text{A}$		0.38	0.55	Ω	$V_{GS}=-10\text{V}, I_D=-4\text{A}$
C_{iss}		300		pF	$V_{DS}=25\text{V}, f=1.0\text{MHz}$,		270		pF	$V_{DS}=-25\text{V}, f=1.0\text{MHz}$,
C_{oss}		160		pF	$V_{GS}=0\text{V}$		170		pF	$V_{GS}=0\text{V}$
t_{on}		35		ns	$I_D=5\text{A}, V_{DD}=\pm 30\text{V}, V_{GS}=10\text{V}$,		60		ns	$I_D=-4\text{A}, V_{DD}=\pm 30\text{V}, V_{GS}=-10\text{V}$,
t_{off}		35		ns	see Fig. 3 on page 16.		60		ns	see Fig. 4 on page 16.
V_{SD}		1.1	1.5	V	$I_{SD}=5\text{A}, V_{GS}=0\text{V}$		-4.4	-5.5	V	$I_{SD}=-4\text{A}, V_{GS}=0\text{V}$
t_{rr}		140		ns	$I_{SD}=\pm 100\text{mA}$		150		ns	$I_{SD}=\mp 100\text{mA}$

Characteristic curves

