

# SMA5106

查询SMA5106供应商

N-channel

捷多邦, 专业PCB打样工厂, 24小时加急出货

With built-in flywheel diode

External dimensions **B**... SMA

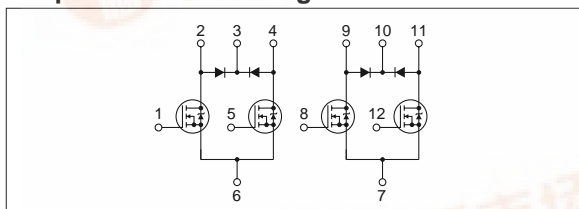
## Absolute maximum ratings

(Ta=25°C)

Symbol	Ratings	Unit
V <sub>DSS</sub>	100	V
V <sub>GSS</sub>	±10	V
I <sub>D</sub>	±4	A
I <sub>D</sub> (pulse)	±8 (PW≤1ms)	A
E <sub>AS</sub> *	16	mJ
I <sub>F</sub>	4 (PW≤0.5ms, Du≤25%)	A
I <sub>FSM</sub>	8 (PW≤10ms, Single pulse)	A
V <sub>R</sub>	120	V
P <sub>T</sub>	4 (Ta=25°C, with all circuits operating, without heatsink) 28 (Tc=25°C, with all circuits operating, with infinite heatsink)	W
θ <sub>J-a</sub>	31.2 (Junction-Air, Ta=25°C, with all circuits operating)	°C/W
θ <sub>J-c</sub>	4.46 (Junction-Case, Tc=25°C, with all circuits operating)	°C/W
T <sub>ch</sub>	150	°C
T <sub>stg</sub>	-40 to +150	°C

\* : V<sub>DD</sub>=20V, L=1mH, I<sub>b</sub>=5A, unclamped, see Fig. E on page 15.

## Equivalent circuit diagram



## Electrical characteristics

(Ta=25°C)

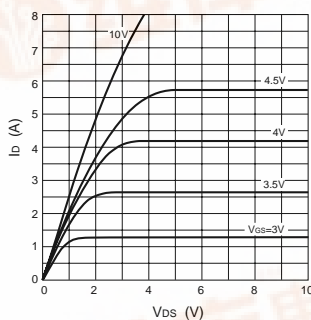
Symbol	Specification			Unit	Conditions
	min	typ	max		
V <sub>(BR)DSS</sub>	100			V	I <sub>D</sub> =250μA, V <sub>GS</sub> =0V
I <sub>GSS</sub>			±500	nA	V <sub>GS</sub> =±10V
I <sub>DSS</sub>			250	μA	V <sub>DS</sub> =100V, V <sub>GS</sub> =0V
V <sub>TH</sub>	1.0		2.0	V	V <sub>DS</sub> =10V, I <sub>D</sub> =250μA
Re <sub>(yfs)</sub>	1.1	1.7		S	V <sub>DS</sub> =10V, I <sub>D</sub> =4A
R <sub>DS(ON)</sub>		0.47	0.55	Ω	V <sub>GS</sub> =10V, I <sub>D</sub> =2A
		0.60	0.78	Ω	V <sub>GS</sub> =4V, I <sub>D</sub> =2A
C <sub>iss</sub>		230		pF	V <sub>DS</sub> =25V, f=1.0MHz, V <sub>GS</sub> =0V
C <sub>oss</sub>		60		pF	V <sub>GS</sub> =0V
ton		60		ns	I <sub>D</sub> =4A, V <sub>DD</sub> =50V, V <sub>GS</sub> =10V, see Fig. 3 on page 16.
toff		50		ns	
V <sub>SD</sub>		1.2	2.0	V	I <sub>SD</sub> =4A, V <sub>GS</sub> =0V
trr		250		ns	I <sub>SD</sub> =±100mA

## Diode for flyback voltage absorption

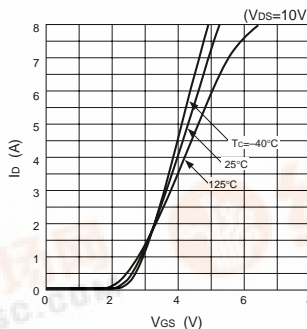
Symbol	Specification			Unit	Conditions
	min	typ	max		
V <sub>R</sub>	120			V	I <sub>R</sub> =10μA
V <sub>F</sub>		1.0	1.2	V	I <sub>F</sub> =1A
I <sub>R</sub>			10	μA	V <sub>R</sub> =120V
trr		100		ns	I <sub>F</sub> =±100mA

## Characteristic curves

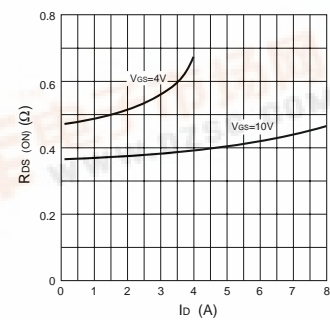
I<sub>D</sub>-V<sub>DS</sub> Characteristics (Typical)



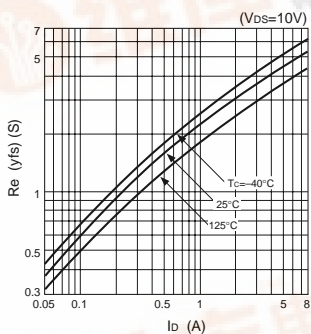
I<sub>D</sub>-V<sub>GS</sub> Characteristics (Typical)



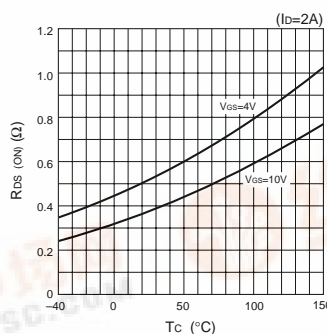
R<sub>DS(ON)</sub>-I<sub>D</sub> Characteristics (Typical)



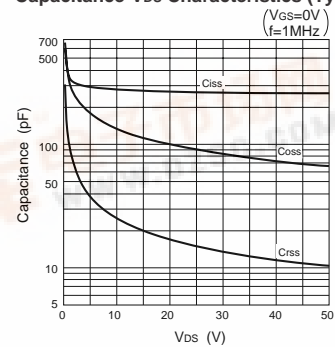
Re<sub>(yfs)</sub>-I<sub>D</sub> Characteristics (Typical)



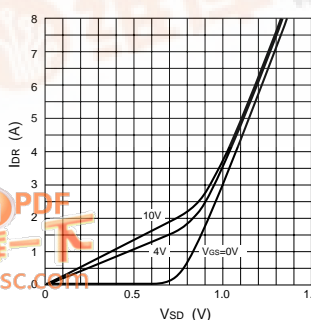
R<sub>DS(ON)</sub>-T<sub>C</sub> Characteristics (Typical)



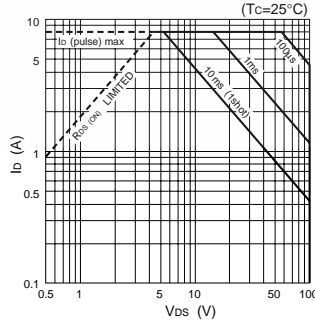
Capacitance-V<sub>DS</sub> Characteristics (Typical)



I<sub>DR</sub>-V<sub>SD</sub> Characteristics (Typical)



Safe Operating Area (SOA)



P<sub>T</sub>-T<sub>a</sub> Characteristics

