

General Description

The MY027CNB6 use Trench Power MV MOSFET technology, have Excellent package for heat dissipation, use High density cell design for low $R_{DS(ON)}$

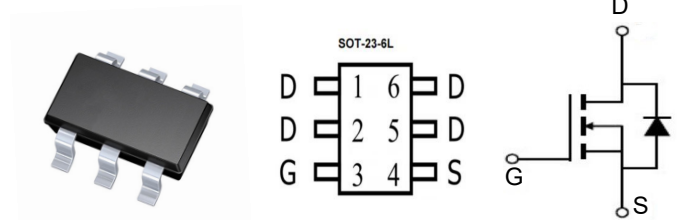


Features

V_{DSS}	20	V
I_D	11	A
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	< 27	$m\Omega$
$R_{DS(ON)}$ (at $V_{GS}=2.5V$)	< 45	$m\Omega$

Application

- Battery protection
- Load switch
- Power management



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MY027CNB6	SOT-23-6	027CN	3000

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

Parameter	Symbol	Limit	Unit
Drain-source Voltage	V_{DS}	20	V
Gate-source Voltage	V_{GS}	± 10	V
Drain Current-Continuous	I_D	11	A
Pulsed Drain Current ^A	I_{DM}	14	A
Total Power Dissipation @ $T_A=25^\circ\text{C}$	P_D	0.7	W
Thermal Resistance Junction-to-Ambient @ Steady State ^B	$R_{\theta JA}$	178	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	$^\circ\text{C}$

Electrical Characteristics at $T_j=25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V, T_C=25^\circ C$			1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 10V, V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.45	0.7	0.9	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=2.5A$		22	27	m Ω
		$V_{GS}=2.5V, I_D=2.0A$		30	45	
Diode Forward Voltage	V_{SD}	$I_S=2.5A, V_{GS}=0V$			1.2	V
Maximum Body-Diode Continuous Current	I_S				2.8	A
Dynamic Parameters						
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$		280		pF
Output Capacitance	C_{oss}			46		
Reverse Transfer Capacitance	C_{rss}			29		
Switching Parameters						
Total Gate Charge	Q_g	$V_{GS}=4.5V, V_{DS}=10V, I_D=2.5A$		2.9		nC
Gate Source Charge	Q_{gs}			0.4		
Gate Drain Charge	Q_{gd}			0.6		
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=4.5V, V_{DD}=10V, R_L=1.5\Omega, R_{GEN}=3\Omega$		13		ns
Turn-on Rise Time	t_r			54		
Turn-off Delay Time	$t_{D(off)}$			18		
Turn-off Fall Time	t_f			11		

- A. Pulse Test: Pulse Width $\leq 300\mu s$, Duty cycle $\leq 2\%$.
B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

Typical Characteristics

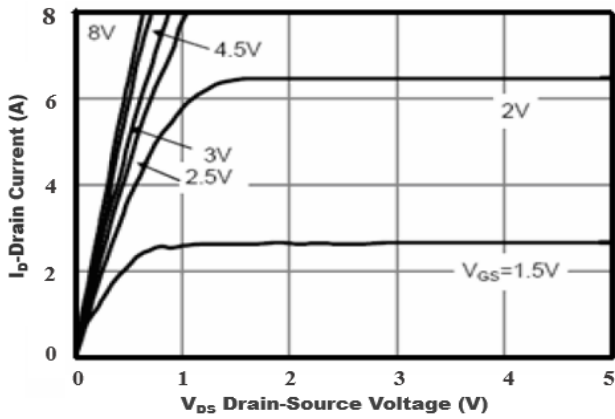


Figure1. Output Characteristics

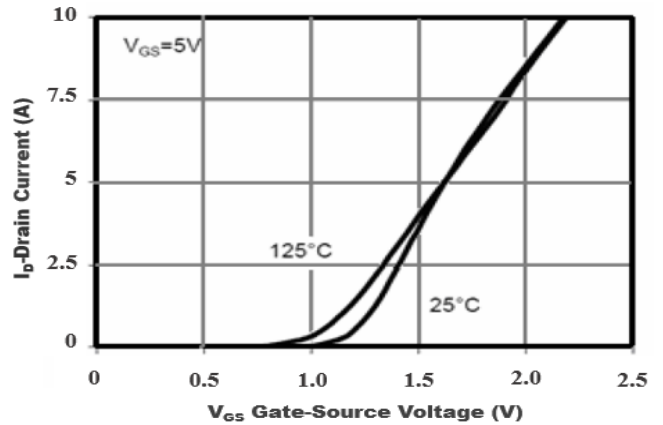


Figure2. Transfer Characteristics

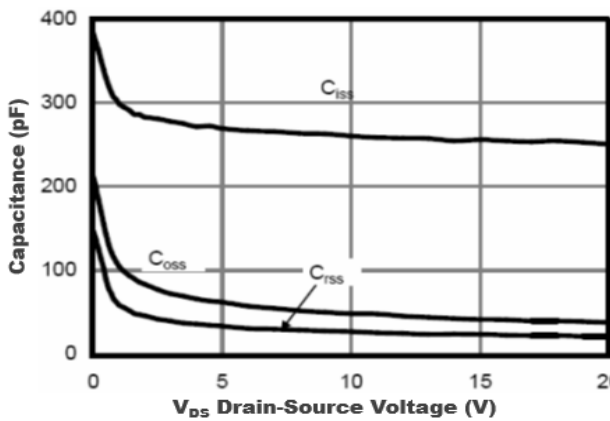


Figure3. Capacitance Characteristics

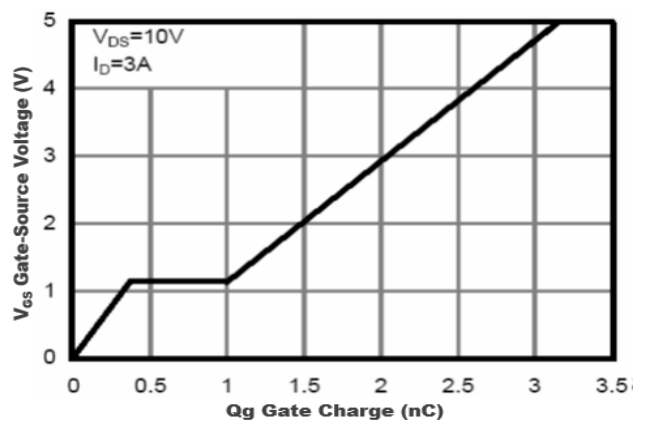


Figure4. Gate Charge

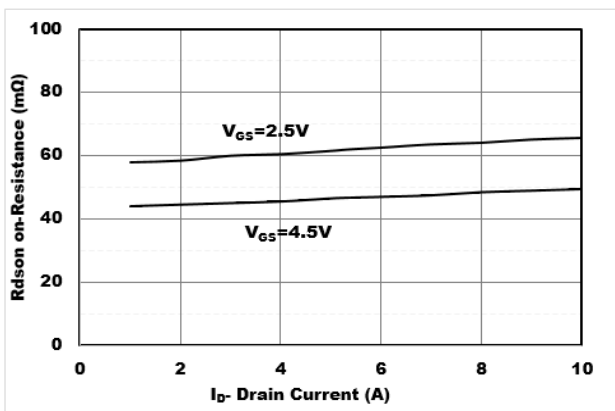


Figure5. Drain-Source on Resistance

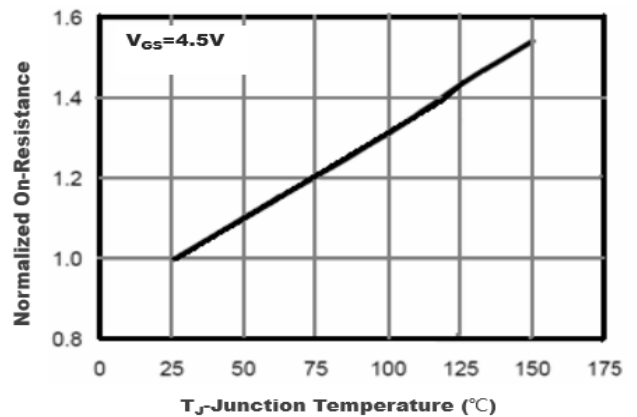


Figure6. Drain-Source on Resistance

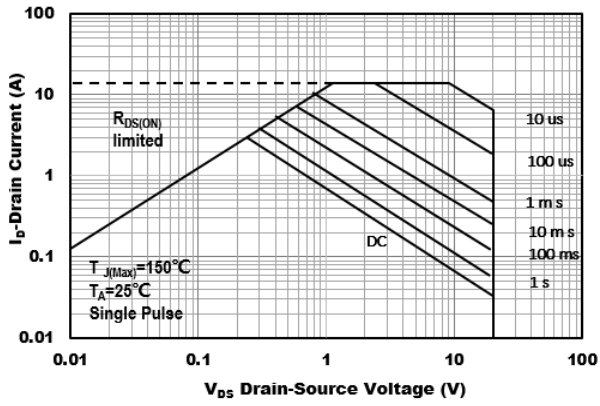


Figure7. Safe Operation Area

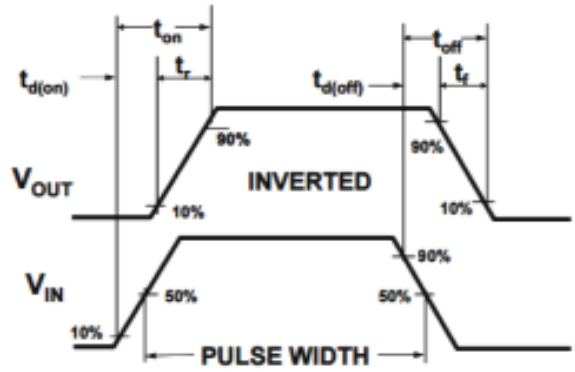


Figure8. Switching wave

Package Mechanical Data-SOT23-6 Single

