



N-Channel Silicon MOSFET

CPH3437 — General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 2.5V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		20	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		4.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	18	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² ×0.8mm)	1.0	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0	20			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	0.4		1.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =2.5A	4	6.8		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =2A, V _{GS} =4.5V		28	39	mΩ
	R _{DS(on)2}	I _D =2A, V _{GS} =4V		29	40	mΩ
	R _{DS(on)3}	I _D =1A, V _{GS} =2.5V		39	55	mΩ
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		755		pF
Output Capacitance	C _{oss}	V _{DS} =10V, f=1MHz		155		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =10V, f=1MHz		135		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		17		ns
Rise Time	t _r	See specified Test Circuit.		100		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		68		ns
Fall Time	t _f	See specified Test Circuit.		85		ns

Marking : ZM

Continued on next page.

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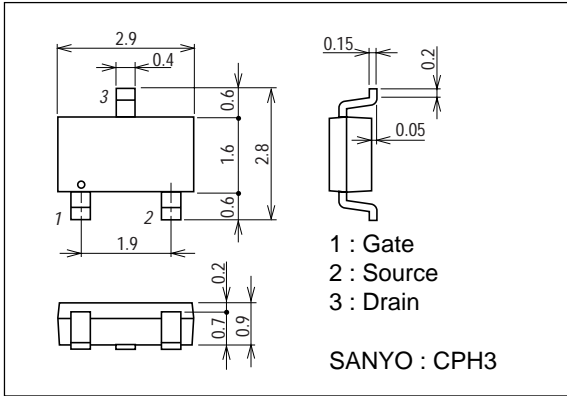
CPH3437

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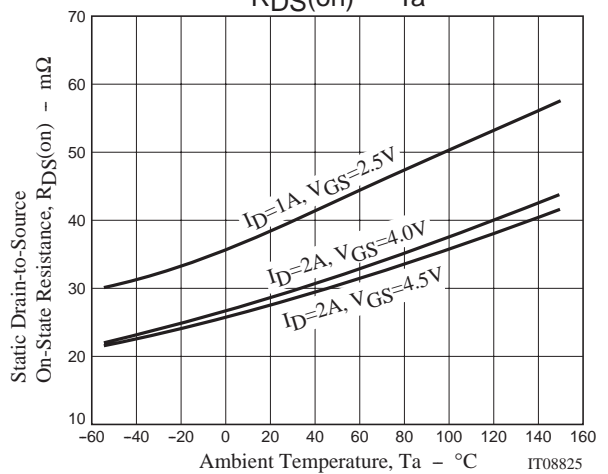
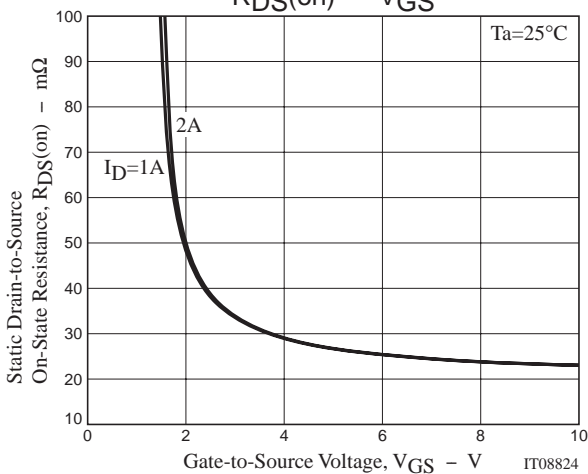
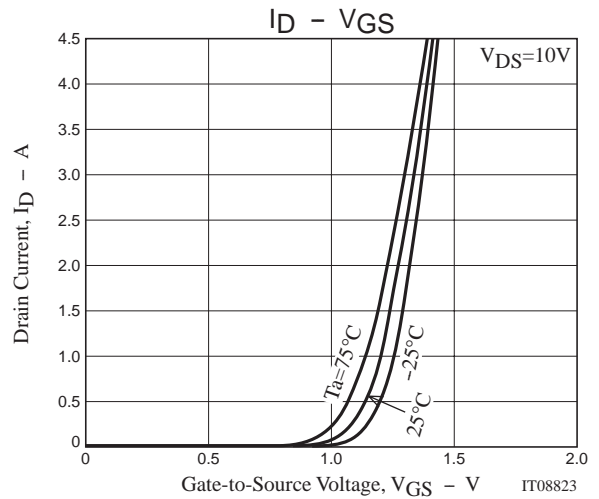
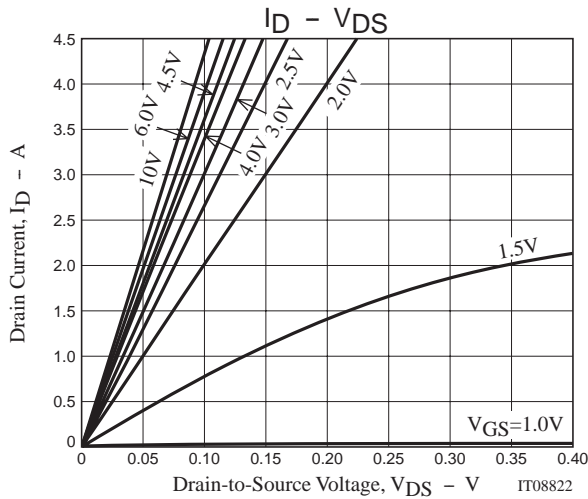
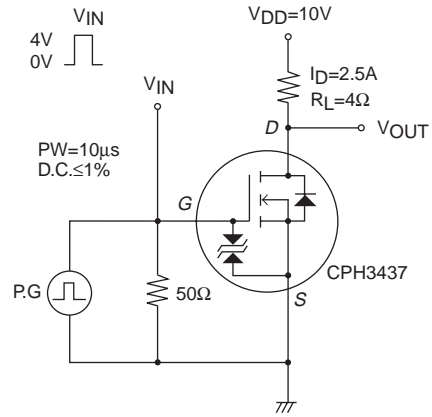
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =4V, I _D =4.5A		9.9		nC
Gate-to-Source Charge	Qgs	V _{DS} =10V, V _{GS} =4V, I _D =4.5A		1.35		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =10V, V _{GS} =4V, I _D =4.5A		3.5		nC
Diode Forward Voltage	V _{SD}	I _S =4.5A, V _{GS} =0		0.84	1.2	V

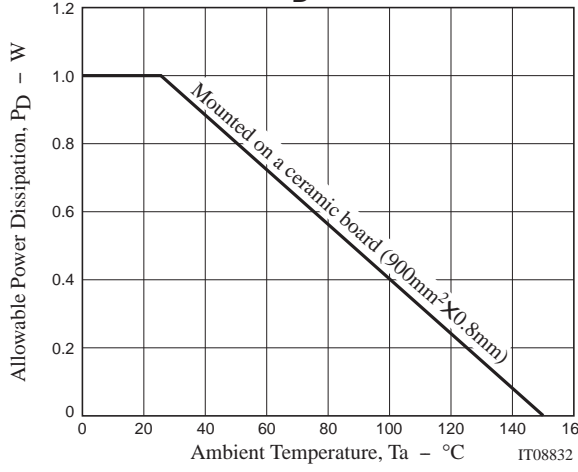
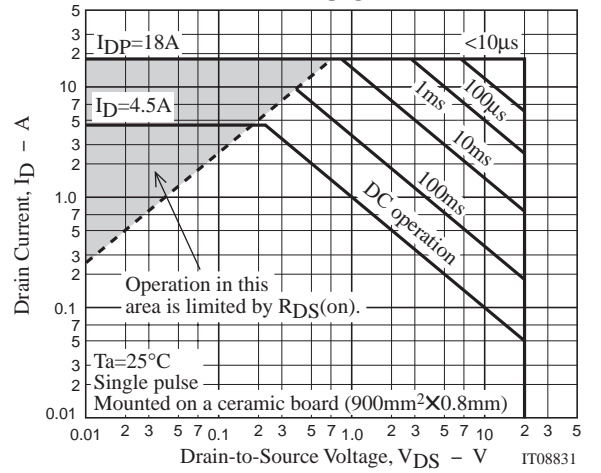
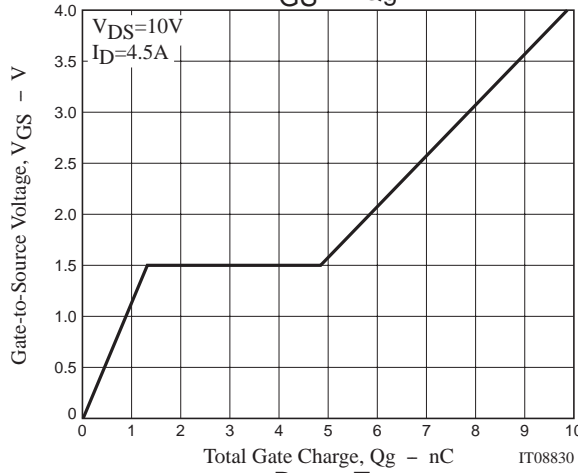
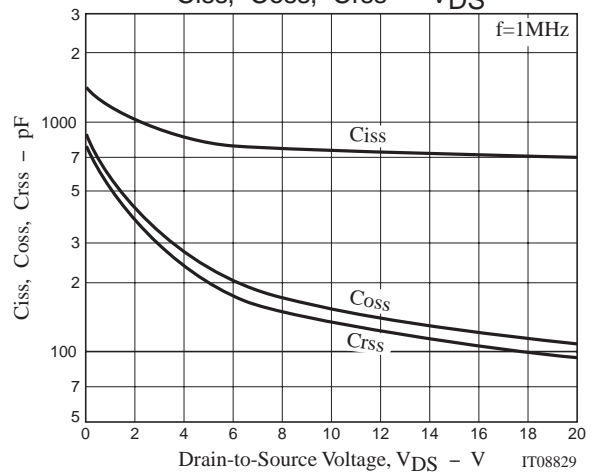
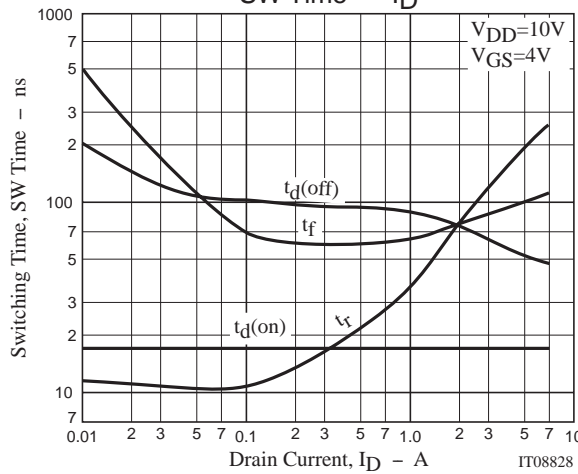
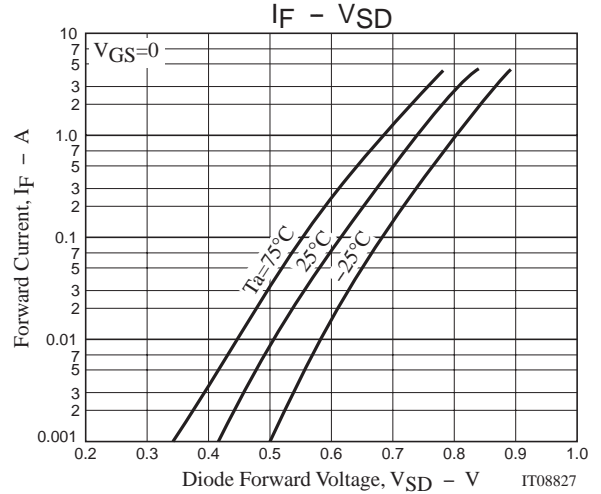
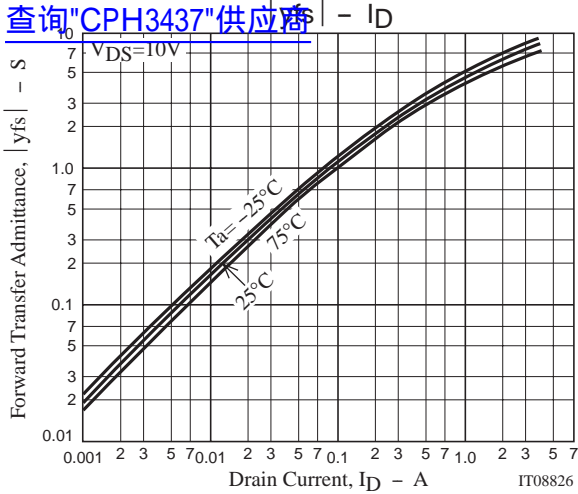
Package Dimensions

unit : mm
2152A



Switching Time Test Circuit





Note on usage : Since the CPH3437 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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