

CPH3457 — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)} = 73\text{m}\Omega$ (typ.)
- 1.8V drive
- Halogen free compliance

Specifications

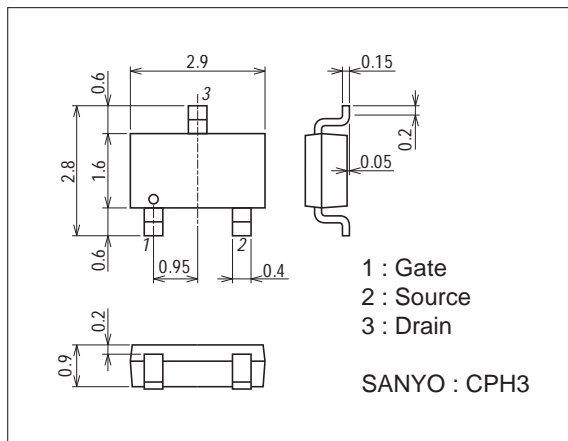
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		30	V
Gate-to-Source Voltage	V_{GSS}		± 12	V
Drain Current (DC)	I_D		3	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	12	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (900mm ² × 0.8mm)	1.0	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Package Dimensions

unit : mm (typ)

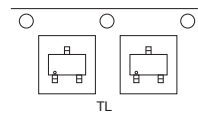
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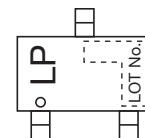
Product & Package Information

- Package : CPH3
- JEITA, JEDEC : SC-96, SC-95, SOT346, SOT457
- Minimum Packing Quantity : 3,000 pcs./reel

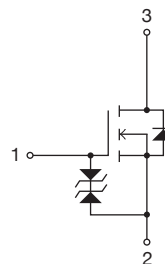
Packing Type: TL



Marking



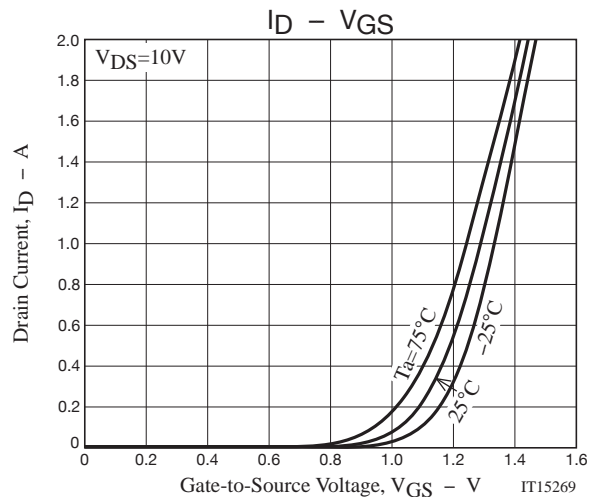
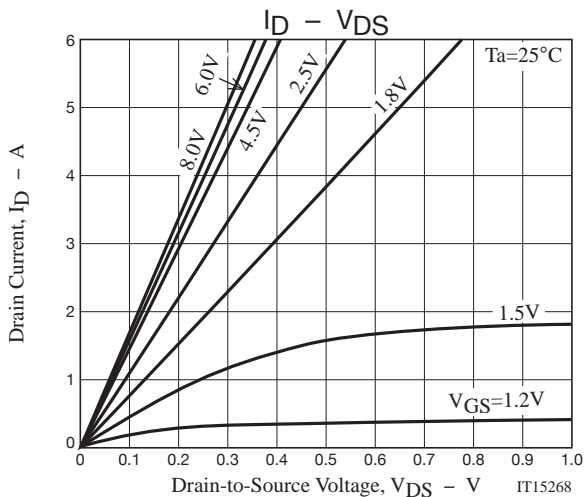
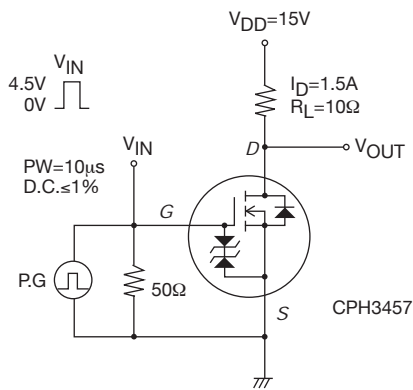
Electrical Connection

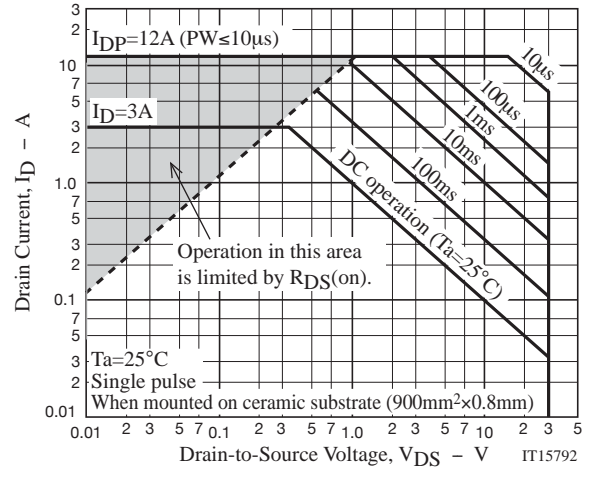
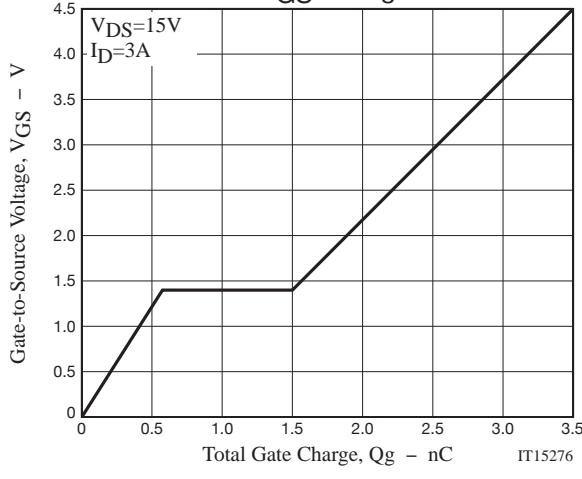
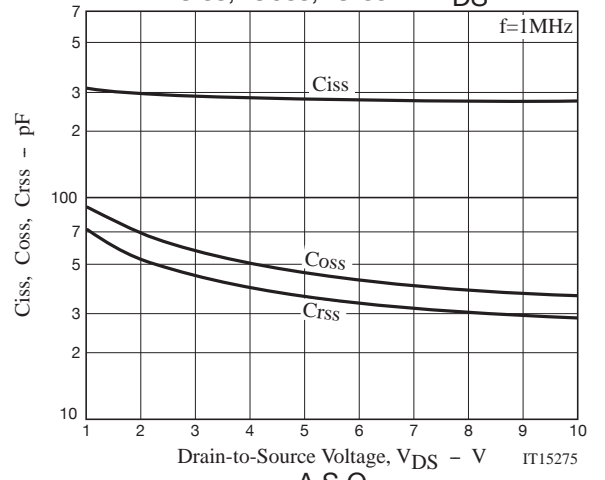
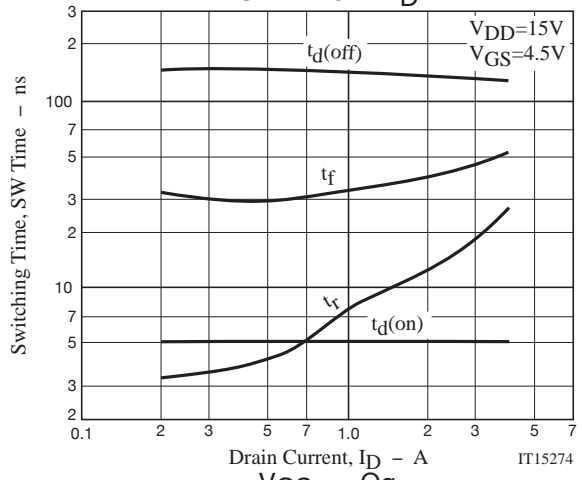
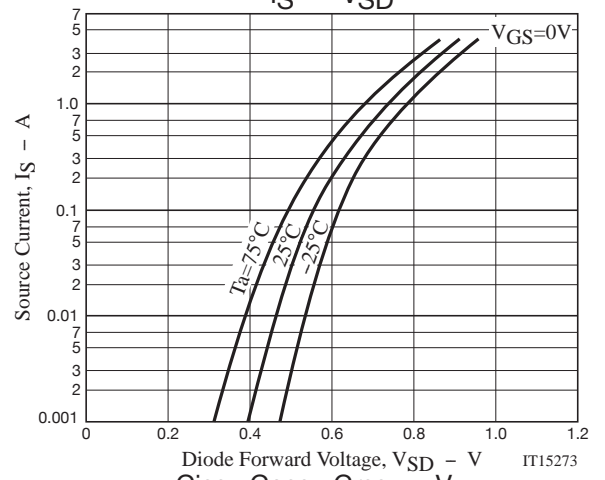
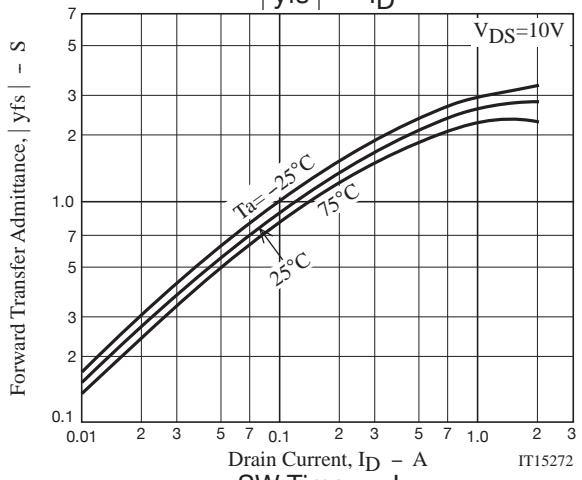
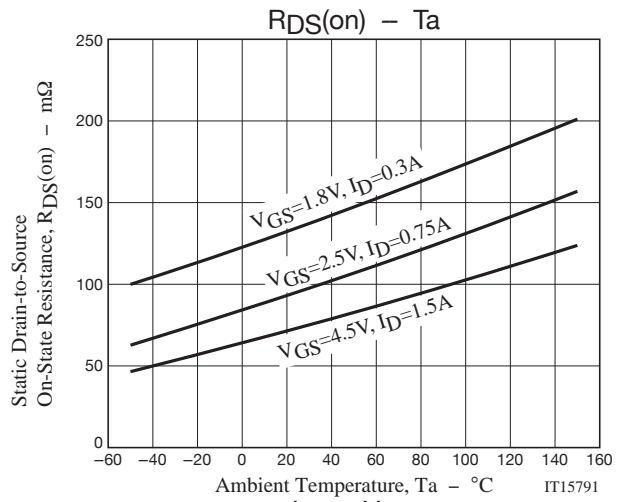
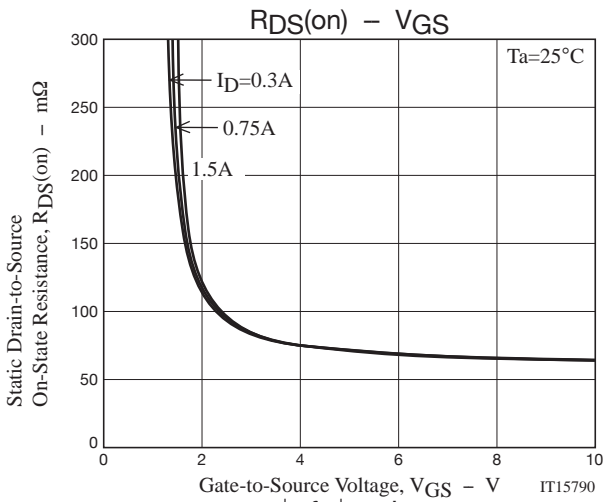


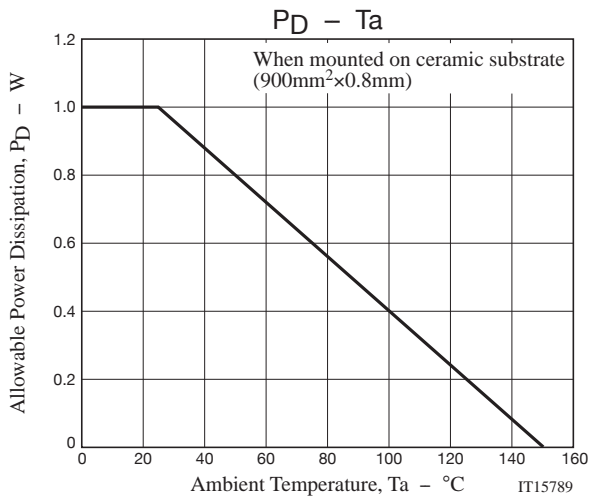
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=30V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	0.4		1.3	V
Forward Transfer Admittance	yfs	VDS=10V, ID=1.5A		2.7		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=1.5A, VGS=4.5V		73	95	mΩ
	RDS(on)2	ID=0.75A, VGS=2.5V		95	133	mΩ
	RDS(on)2	ID=0.3A, VGS=1.8V		135	203	mΩ
Input Capacitance	Ciss	VDS=10V, f=1MHz		265		pF
Output Capacitance	Coss	VDS=10V, f=1MHz		35		pF
Reverse Transfer Capacitance	Crss	VDS=10V, f=1MHz		28		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		5.1		ns
Rise Time	t _r	See specified Test Circuit.		10		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		137		ns
Fall Time	t _f	See specified Test Circuit.		36		ns
Total Gate Charge	Qg	VDS=15V, VGS=4.5V, ID=3A		3.5		nC
Gate-to-Source Charge	Qgs	VDS=15V, VGS=4.5V, ID=3A		0.57		nC
Gate-to-Drain "Miller" Charge	Qgd	VDS=15V, VGS=4.5V, ID=3A		0.93		nC
Diode Forward Voltage	VSD	IS=3A, VGS=0V		0.87	1.2	V

Switching Time Test Circuit







Note on usage : Since the CPH3457 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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