PCP1402



Power MOSFET 250V, 2.4Ω, 1.2A, Single N-Channel

Features

- On-resistance RDS(on)= 1.8Ω (typ)
- Input Capacitance Ciss=210pF (typ)
- Halogen free compliance

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions		Unit
Drain to Source Voltage	VDSS		250	V
Gate to Source Voltage	VGSS		±30	V
Drain Current (DC)	ID		1.2	Α
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	4.8	Α
Power Dissipation		Tc=25°C	3.5	W
	PD	When mounted on ceramic substrate (600mm ² ×0.8mm)	1.5	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		–55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

Thermal Resistance Ratings

Parameter	Symbol	Value	Unit
Junction to Case Steady State	$R_{ heta JC}$	35.7	°C /W
Junction to Ambient	$R_{\theta JA}$	83.3	°C /W
When mounted on ceramic substrate (600mm ² ×0.8mm)			

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

Electrical Characteristics at Ta = 25°C

D	0 1 1	0 111	Value			
Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0V	250			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =250V, V _{GS} =0V			1	μΑ
Gate to Source Leakage Current	IGSS	V _{GS} =±30V, V _{DS} =0V			±10	μΑ
Gate Threshold Voltage	VGS(th)	V _{DS} =10V, I _D =1mA	2.5		3.5	V
Forward Transconductance	gFS	V _{DS} =10V, I _D =600mA		1.2		S

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ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

PCP1402

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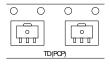
Parameter	Symbol	0 - 111	Value			11.7
		Conditions	min	Тур	max	Unit
Static Drain to Source On-State Resistance	R _{DS} (on)	I _D =600mA, V _{GS} =10V		1.8	2.4	Ω
Input Capacitance	Ciss			210		pF
Output Capacitance	Coss	V _{DS} =20V, f=1MHz		20		pF
Reverse Transfer Capacitance	Crss			7		pF
Turn-ON Delay Time	t _d (on)			7.9		ns
Rise Time	t _r			6.7		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit		14.5		ns
Fall Time	tf			30		ns
Total Gate Charge	Qg			4.2		nC
Gate to Source Charge	Qgs	V _{DS} =125V, V _{GS} =10V, I _D =1.2A		1.4		nC
Gate to Drain "Miller" Charge	Qgd]		1.0		nC
Forward Diode Voltage	V _{SD}	I _S =1.2A, V _{GS} =0V		0.86	1.2	V

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

Ordering & Package Information

Device	Package	Shipping	note
PCP1402-TD-H	PCP, SC-62 SOT-89, TO-243	1,000 pcs. / reel	Pb-Free and Halogen Free

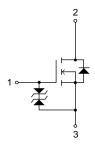
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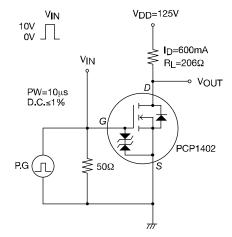
Marking

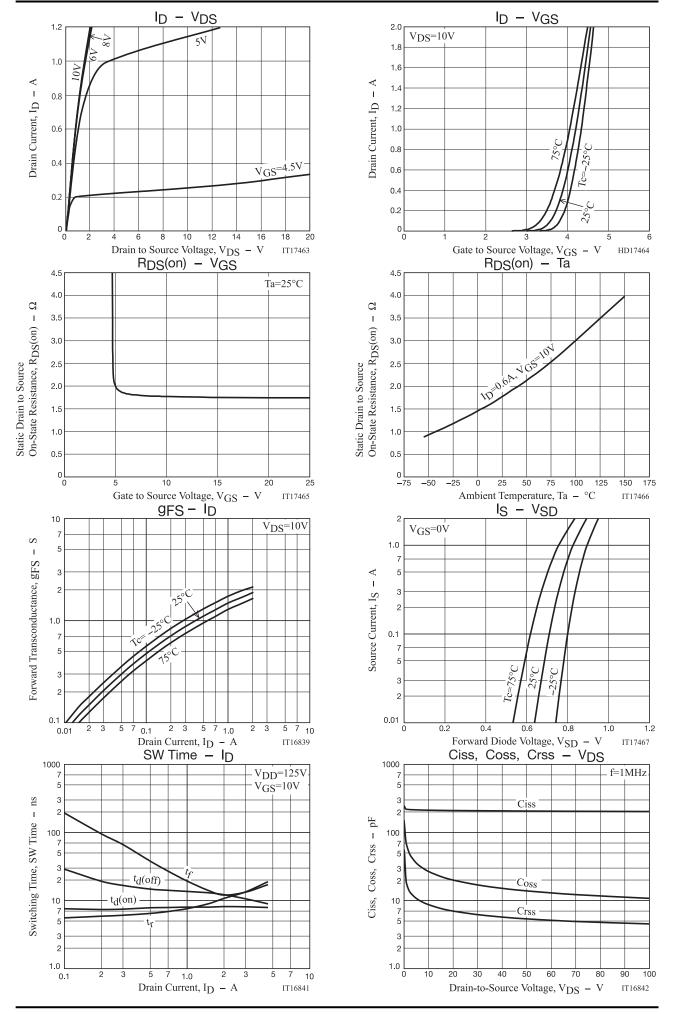


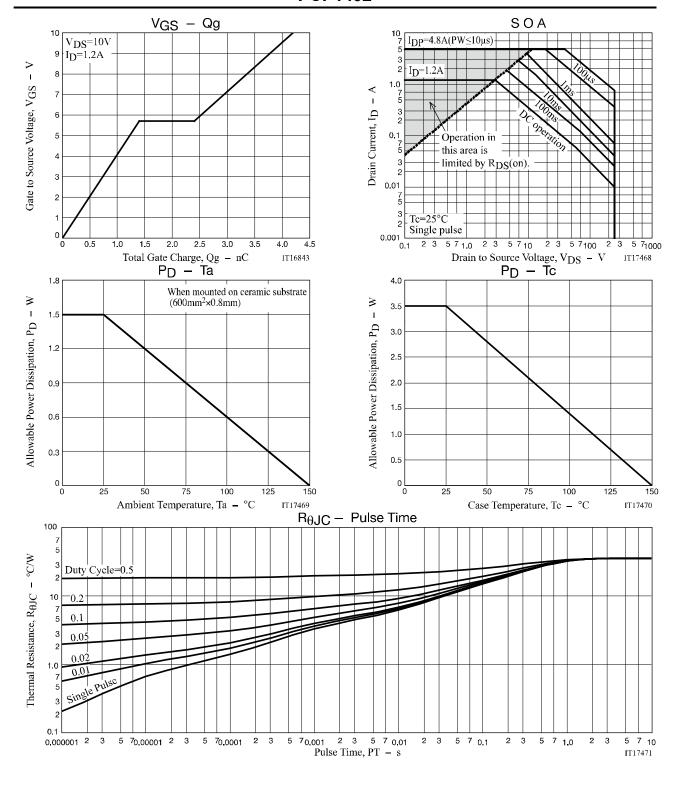
Electrical Connection



Switching Time Test Circuit







Package Dimensions

PCP1402-TD-H

SOT-89/PCP-2

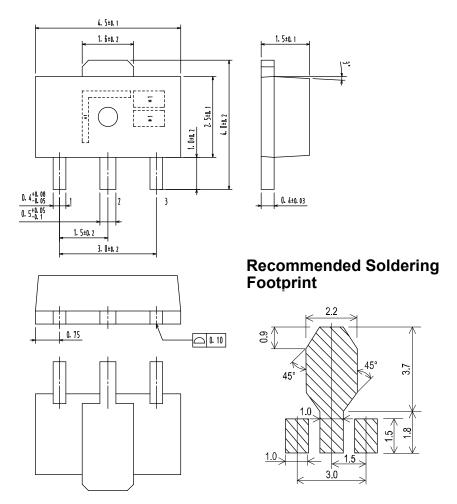
CASE 419AW ISSUE O

unit : mm

1: Gate

2: Drain

3: Source



Note on usage: Since the PCP1402 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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