



# Types HCT802, HCT802TX, HCT802TXV

Electrical Characteristics ( $T_A = 25^\circ\text{C}$  unless specified otherwise)

Symbol	Parameters	Device B=Both	Min	Max	Units	Test Conditions
$B_{VDSS}$	Drain-Source Breakdown	B	90*		V	$I_D = 10\ \mu\text{A}^*$ , $V_{GS} = 0$
$V_{TH}$	Gate Threshold Voltage	N	0.75	2.5	V	$V_{GS} = V_{DS}$ , $I_D = 1\ \text{mA}$
		P	-2.0	-4.5	V	$I_D = -1\ \text{mA}$
$I_{GSS}$	Gate-Body Leakage	B		$\pm 100$	nA	$V_{GS} = \pm 20\ \text{V}$ , $V_{DS} = 0$
$I_{DSS}$	Zero Gate Voltage Drain Current	B		10*	$\mu\text{A}$	$V_{DS} = 90\ \text{V}^*$ , $V_{GS} = 0\ \text{V}$
		B		500*	$\mu\text{A}$	$T_j = 150^\circ\text{C}$
$I_{D(on)}$	On-State Drain Current	N	1.5		A	$V_{DS} = 25\ \text{V}$ , $V_{GS} = 10\ \text{V}$
		P	-1.1		A	$V_{DS} = -15\ \text{V}$ , $V_{GS} = -10\ \text{V}$
$R_{DS(on)}$	Drain-Source on Resistance	B		5	$\Omega$	$V_{GS} = 10\ \text{V}^*$ , $I_D = 1\ \text{A}^*$
$G_{fs}$	Forward Transconductance	N	170		mmho	$V_{DS} = 25\ \text{V}$ , $I_D = 0.5\ \text{A}$
		P	200		mmho	$V_{DS} = -10\ \text{V}$ , $I_D = -0.5\ \text{A}$
$C_{iss}$	Input Capacitance	N		70	pf	$V_{DS} = 25\ \text{V}$ , $V_{GS} = 0\ \text{V}$ , $f = 1\ \text{MHz}$
		P		150	pf	$V_{DS} = -25\ \text{V}$ , $V_{GS} = 0\ \text{V}$ , $f = 1\ \text{MHz}$
$C_{oss}$	Common Source Output Capacitance	N		40	pf	$V_{DS} = 25\ \text{V}$ , $V_{GS} = 0\ \text{V}$ , $f = 1\ \text{MHz}$
		P		60	pf	$V_{DS} = -25\ \text{V}$ , $V_{GS} = 0\ \text{V}$ , $f = 1\ \text{MHz}$
$C_{rSS}$	Reverse Transfer Capacitance	N		10	pf	$V_{DS} = 25\ \text{V}$ , $V_{GS} = 0\ \text{A}$ , $f = 1\ \text{MHz}$
		P		25	pf	$V_{DS} = -25\ \text{V}$ , $V_{GS} = 0\ \text{A}$ , $f = 1\ \text{MHz}$
$t_{(on)}$	Turn-on-time	N		15	ns	$V_{DD} = 25\ \text{V}$ , $I_D = 1\ \text{A}$ , $R_L = 50\ \Omega$
		P		50	ns	$V_{DD} = -25\ \text{V}$ , $I_D = -0.5\ \text{A}$ , $R_L = 50\ \Omega$
$t_{(off)}$	Turn-off-time	N		17	ns	$V_{DD} = 25\ \text{V}$ , $I_D = 1\ \text{A}$ , $R_L = 50\ \Omega$
		P		50	ns	$V_{DD} = -25\ \text{V}$ , $I_D = -0.5\ \text{A}$ , $R_L = 50\ \Omega$

\* Reverse polarity for P-Channel device

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