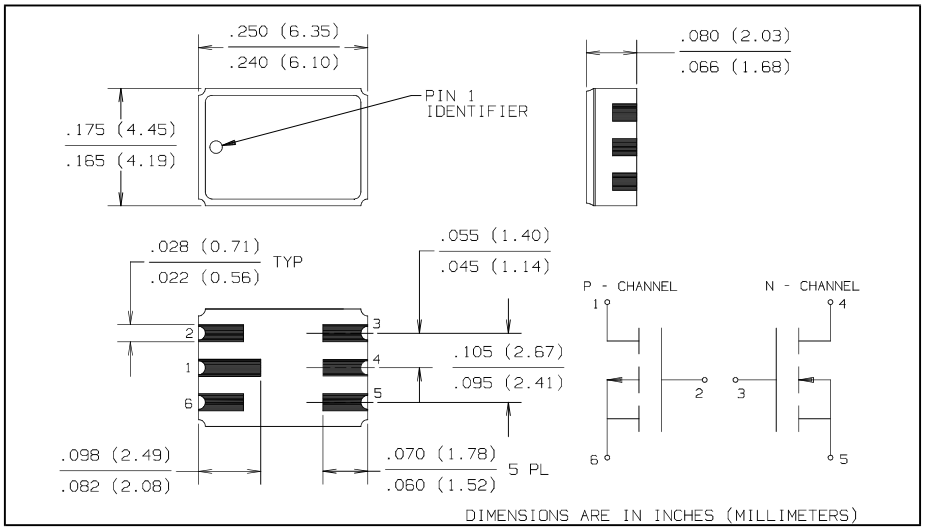
Dual Enhancement Mode MOSFET
Types HCT802, HCT802TX, HCT802TXV



Features

- 6 pad surface mount package
- V_{DS} = 90V
- $R_{DS(on)}$ <5Ω
- $I_{D(on)}$ N-Channel = 1.5A
  P-Channel = 1.1A
- Two devices selected for V_{DS}, $I_{D(on)}$ and $R_{DS(on)}$ similarity
- Full TX Processing Available
- Gold plated contacts

Description

HCT802 offers an N-Channel and P-Channel MOS transistor in a hermetic ceramic surface mount package. The devices used are similar to industry standards 2N6661 N-Channel device and VP1008 P-Channel device. These two enhancement mode MOSFETS are particularly well matched for V_{DS}, $I_{DS(on)}$, $R_{DS(on)}$ and G_{fs}.

Order HCT802TX for processing per MIL-PRF-19500. Typical screening and lot acceptance tests are provided on page 13-4. TX products receive a V_{GS} HTRB at 16 V for 48 hrs. at 150° C and a V_{DS} HTRB at 72 V for 160 hrs. at 150° C.

Absolute Maximum Ratings

Drain-Source Voltage . . . . . 90 V
Gate-Source Voltage . . . . . ±20 V
Drain Current (Limited by Tj max) N-Channel . . . . . 2 A
P-Channel. . . . . 1.1 A
Operating and Storage Temperature . . . . . -55° C to +150° C

Power Dissipation

T_A = 25° C (Both devices equally driven) . . . . . 0.5 W Total
T_S = 25° C (Both devices equally driven). . . . . 1.5 W Total(1)

(Ts = Substrate that the package is soldered to)

Notes

(1) This rating is provided as an aid to designers. It is dependent upon mounting material and methods and is not measureable as an outgoing test.

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Electrical Characteristics (T_A = 25^o 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 μA*, V_{GS} = 0
V_{TH}	Gate Threshold Voltage	N	0.75	2.5	V	V_{GS} = V_{DS}, I_D = 1 mA
		P	-2.0	-4.5	V	I_D = -1 mA
I_{GSS}	Gate-Body Leakage	B		±100	nA	V_{GS} = ± 20 V, V_{DS} = 0
I_{DSS}	Zero Gate Voltage Drain Current	B		10*	μA	V_{DS} = 90 V*, V_{GS} = 0 V
		B		500*	μA	Tj = 150^o C
$I_{D(on)}$	On-State Drain Current	N	1.5		A	V_{DS} = 25 V, V_{GS} = 10 V
		P	-1.1		A	V_{DS} = -15 V, V_{GS} = -10 V
$R_{DS(on)}$	Drain-Source on Resistance	B		5	Ω	V_{GS} = 10 V*, I_D = 1 A*
G_{fs}	Forward Transconductance	N	170		mmho	V_{DS} = 25 V, I_D = 0.5 A
		P	200		mmho	V_{DS} = -10 V, I_D = -0.5 A
C_{ISS}	Input Capacitance	N		70	pf	V_{DS} = 25 V, V_{GS} = 0 V, f = 1 MHz
		P		150	pf	V_{DS} = -25 V, V_{GS} = 0 V, f = 1 MHz
C_{OSS}	Common Source Output Capacitance	N		40	pf	V_{DS} = 25 V, V_{GS} = 0 V, f = 1 MHz
		P		60	pf	V_{DS} = -25 V, V_{GS} = 0 V, f = 1 MHz
C_{RSS}	Reverse Transfer Capacitance	N		10	pf	V_{DS} = 25 V, V_{GS} = 0 A, f = 1 MHz
		P		25	pf	V_{DS} = -25 V, V_{GS} = 0 A, f = 1 MHz
$t_{(on)}$	Turn-on-time	N		15	ns	V_{DD} = 25 V, I_D = 1 A, R_L = 50 Ω
		P		50	ns	V_{DD} = -25 V, I_D = -0.5 A, R_L = 50 Ω
$t_{(off)}$	Turn-off-time	N		17	ns	V_{DD} = 25 V, I_D = 1 A, R_L = 50 Ω
		P		50	ns	V_{DD} = -25 V, I_D = -0.5 A, R_L = 50 Ω

* Reverse polarity for P-Channel device

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