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# 2SJ471

Silicon P Channel DV-L MOS FET  
High Speed Power Switching

# HITACHI

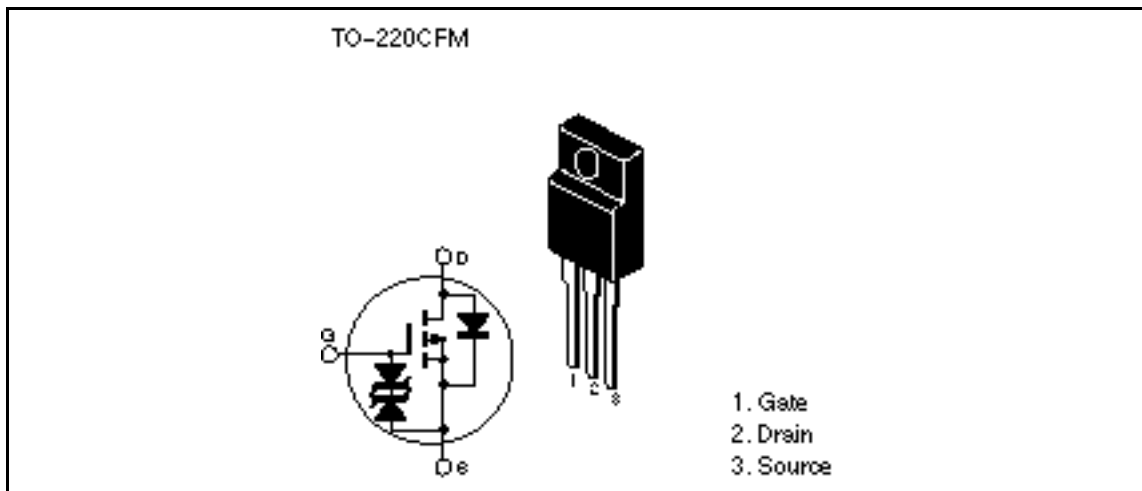
ADE-208-540  
1st. Edition

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## Features

- Low on-resistance  
 $R_{DS(on)} = 25\text{ m}\ \Omega$  typ.
- 4V gate drive devices.
- High speed switching

## Outline



## 2SJ471

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{DSS}$	-30	V
Gate to source voltage	$V_{GSS}$	$\pm 20$	V
Drain current	$I_D$	-30	A
Drain peak current	$I_{D(pulse)}$ <sup>Note1</sup>	-120	A
Body to drain diode reverse drain current	$I_{DR}$	-30	A
Channel dissipation	$Pch$ <sup>Note2</sup>	30	W
Channel temperature	$Tch$	150	°C
Storage temperature	$Tstg$	-55 to +150	°C

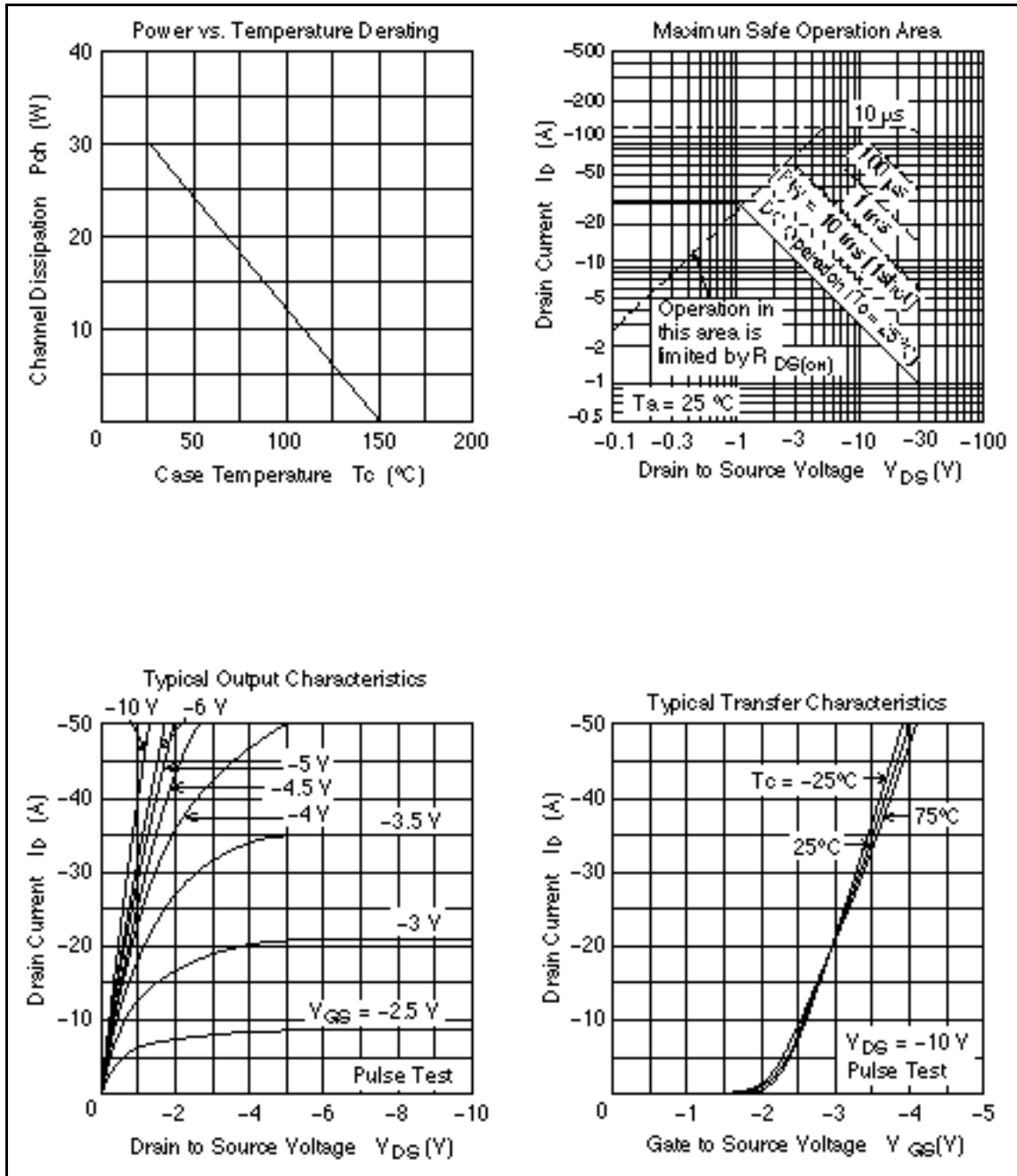
Notes: 1.  $PW = 10\mu s$ , duty cycle = 1 %  
 2. Value at  $Tc = 25^\circ C$

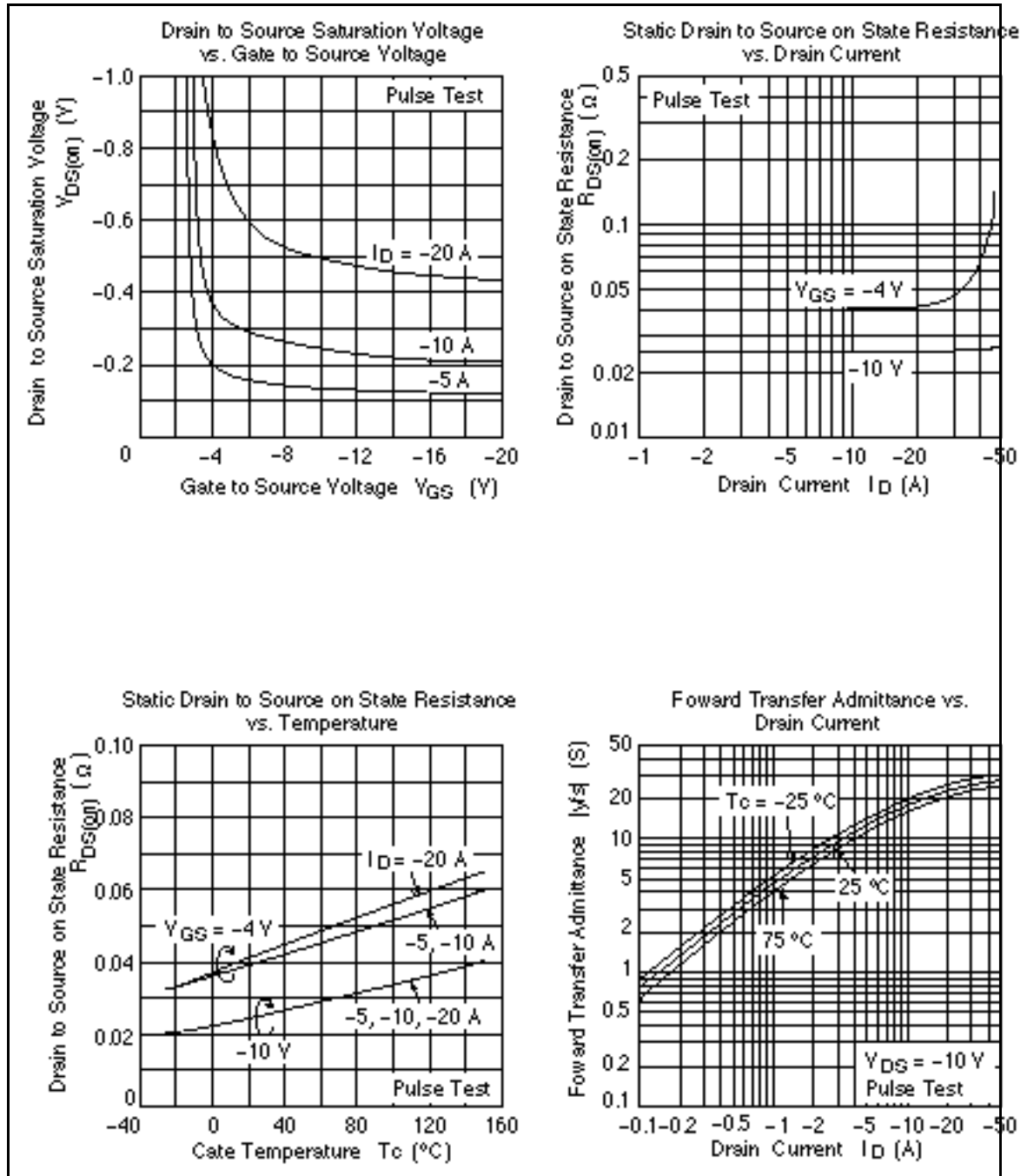
### Electrical Characteristics (Ta = 25°C)

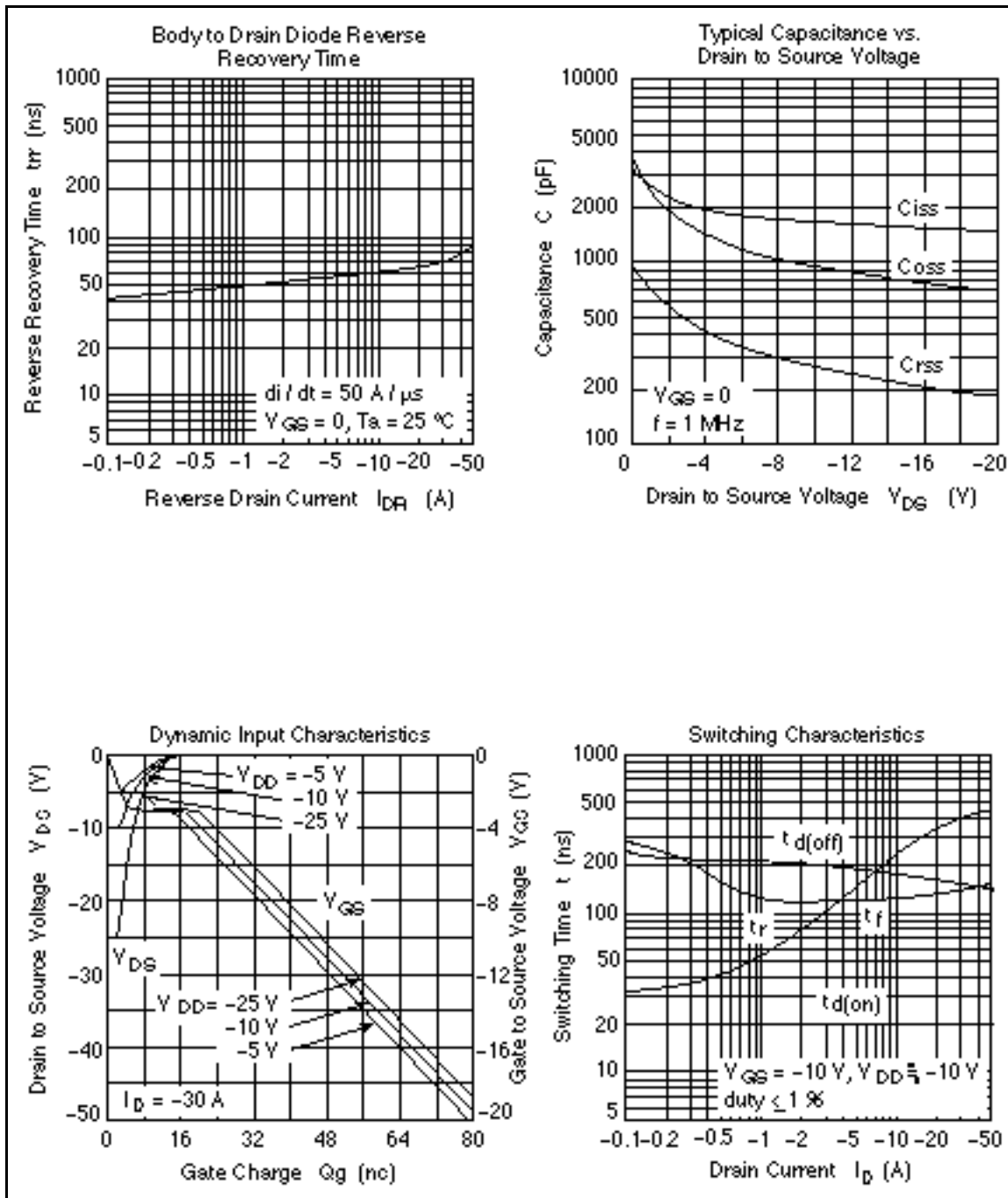
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	-30	—	—	V	$I_D = -10mA, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	$\pm 20$	—	—	V	$I_G = \pm 100\mu A, V_{DS} = 0$
Zero gate voltage drain current	$I_{DSS}$	—	—	-10	$\mu A$	$V_{DS} = -30V, V_{GS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	$\pm 10$	$\mu A$	$V_{GS} = \pm 16V, V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	-1.0	—	-2.0	V	$I_D = -1mA, V_{DS} = -10V$
Static drain to source on state resistance	$R_{DS(on)}$	—	25	35	m	$I_D = -15A, V_{GS} = -10V$ <sup>Note3</sup>
	$R_{DS(on)}$	—	40	60	m	$I_D = -15A, V_{GS} = -4V$ <sup>Note3</sup>
Forward transfer admittance	$ y_{fs} $	12	20	—	S	$I_D = -15A, V_{DS} = -10V$ <sup>Note3</sup>
Input capacitance	$C_{iss}$	—	1700	—	pF	$V_{DS} = -10V$
Output capacitance	$C_{oss}$	—	950	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	$C_{rss}$	—	260	—	pF	$f = 1MHz$
Turn-on delay time	$t_{d(on)}$	—	20	—	ns	$V_{GS} = -10V, I_D = -15A$
Rise time	$t_r$	—	290	—	ns	$R_L = 0.67$
Turn-off delay time	$t_{d(off)}$	—	170	—	ns	
Fall time	$t_f$	—	130	—	ns	
Body to drain diode forward voltage	$V_{DF}$	—	-1.1	—	V	$I_F = -30A, V_{GS} = 0$
Body to drain diode reverse recovery time	$t_{rr}$	—	70	—	ns	$I_F = -30A, V_{GS} = 0$ $diF/dt = 50A/\mu s$

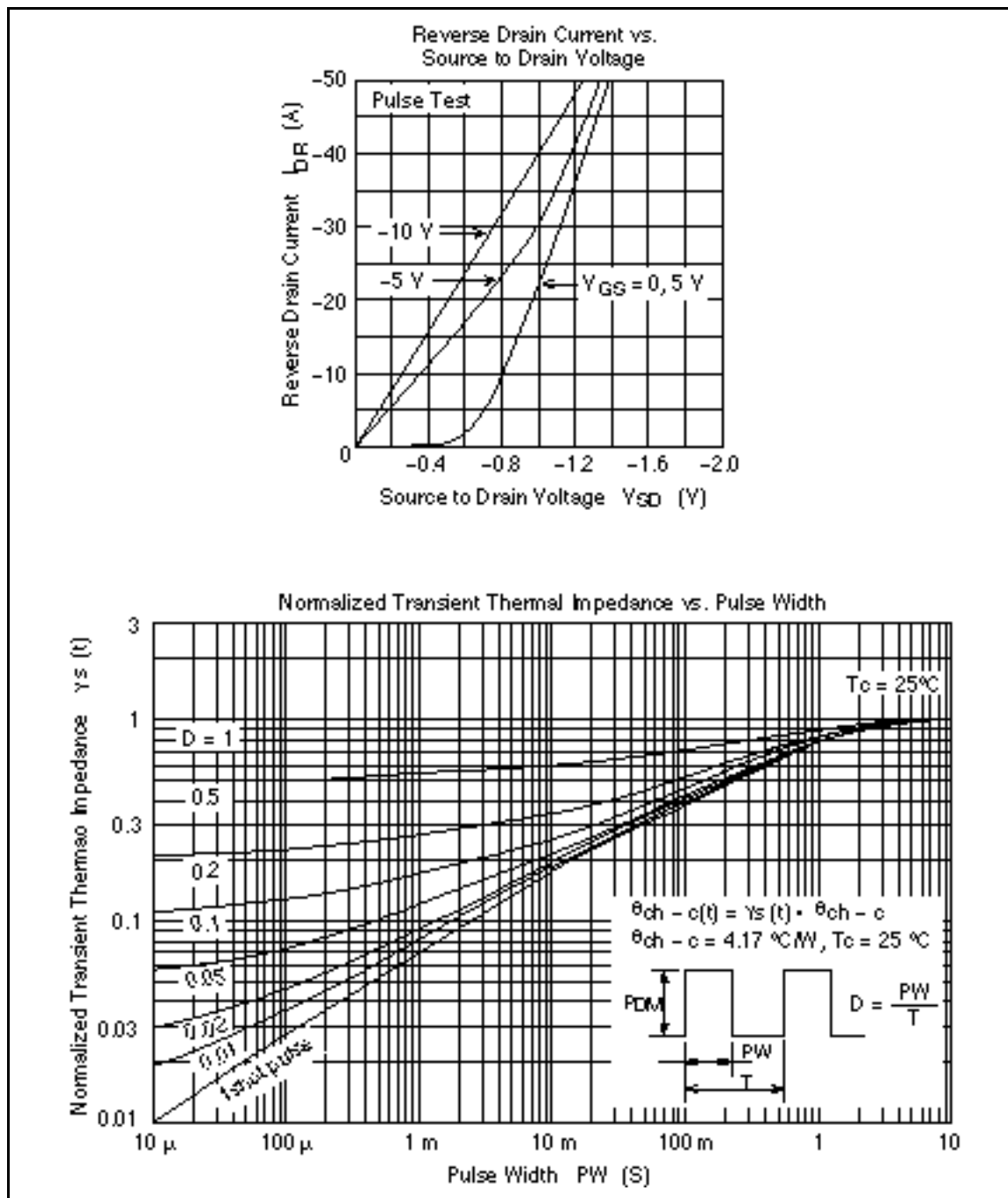
Note: 3. Pulse test

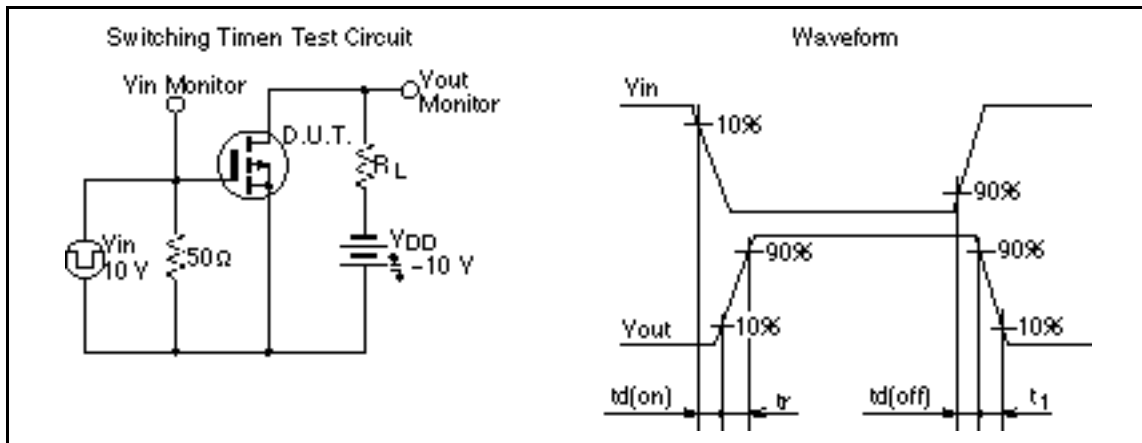
Main Characteristics







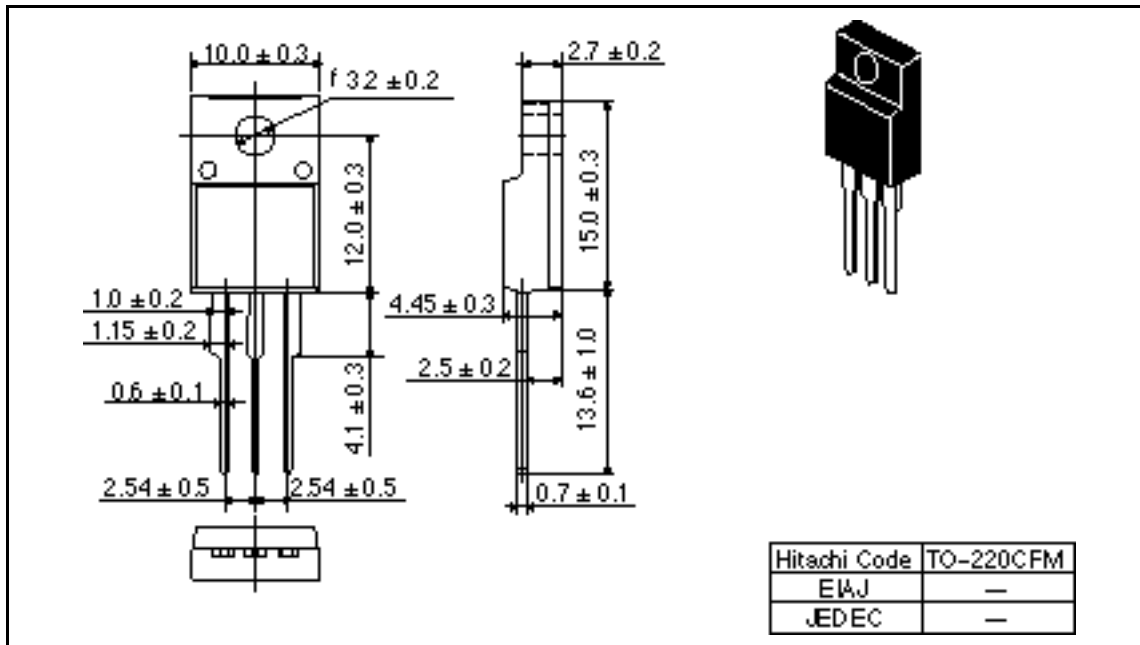




## 2SJ471

### Package Dimensions

Unit: mm





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