
2SK2851

Silicon N Channel MOS FET
High Speed Power Switching

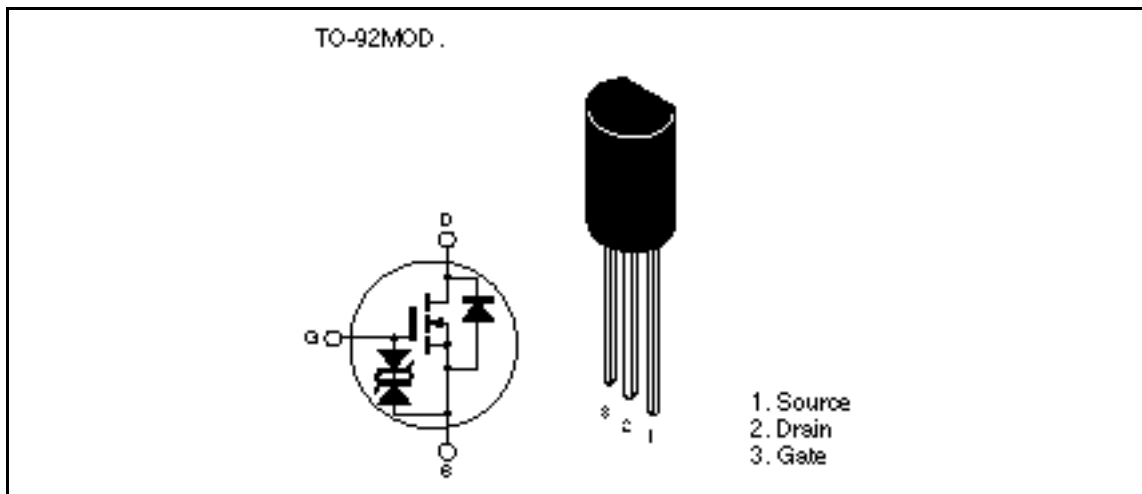
HITACHI

ADE-208-478
1st. Edition

Features

- Low on-resistance
 $R_{DS(on)} = 0.055$ typ. (at $V_{GS} = 10$ V, $I_D = 2.5$ A)
- 4V gate drive devices.
- Large current capacitance
 $I_D = 5$ A

Outline



2SK2851

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	60	V
Gate to source voltage	V_{GSS}	± 20	V
Drain current	I_D	5	A
Drain peak current	$I_{D(pulse)}^{*1}$	20	A
Body to drain diode reverse drain current	I_{DR}	5	A
Avalanche current	I_{AP}^{*3}	5	A
Avalanche energy	E_{AR}^{*3}	2.14	mJ
Channel dissipation	P_{ch}^{*2}	0.9	W
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Notes: 1. PW 10 μ s, duty cycle 1 %

2. Value at Ta = 25°C

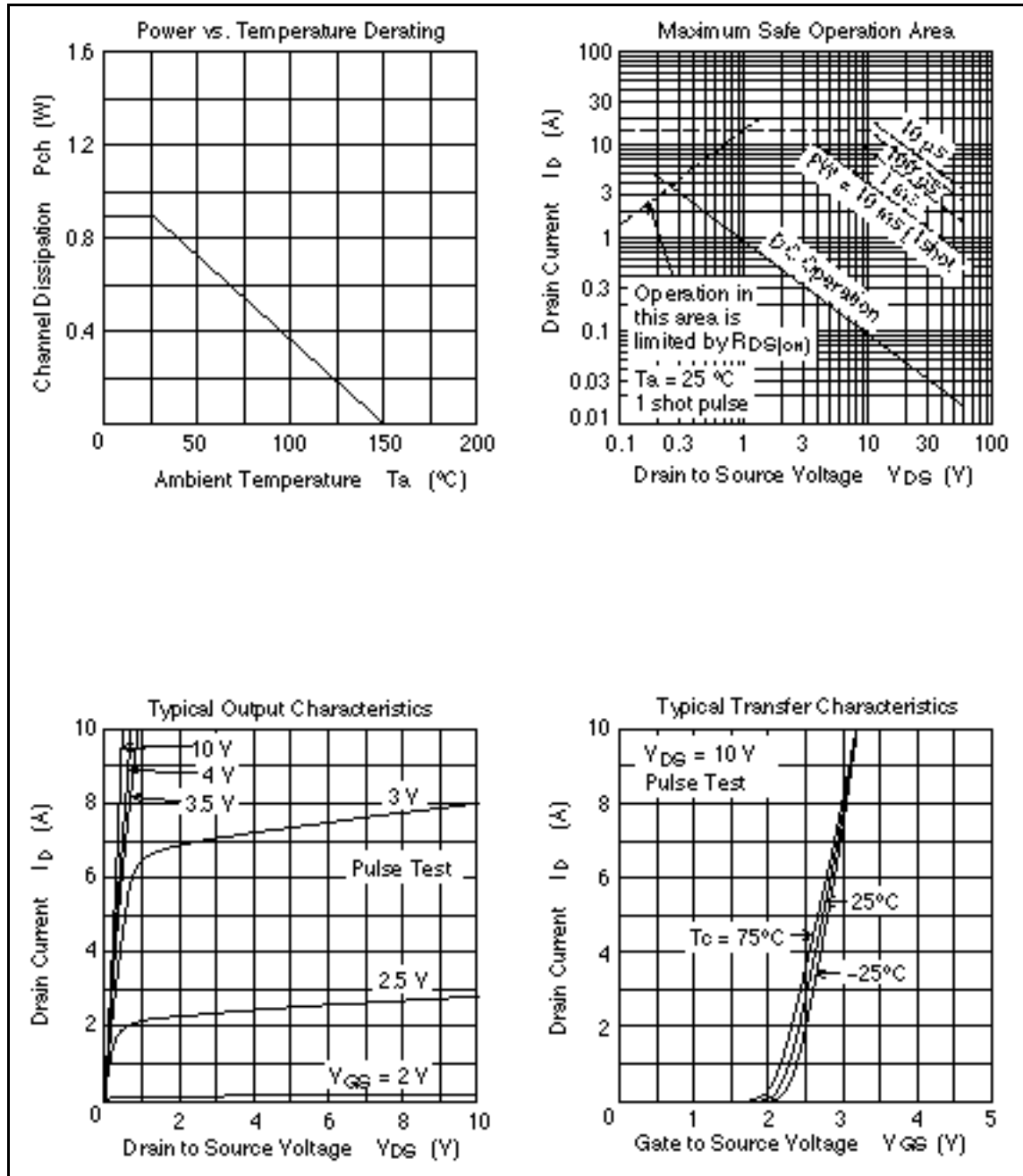
3. Value at Ta = 25°C, Rg 50

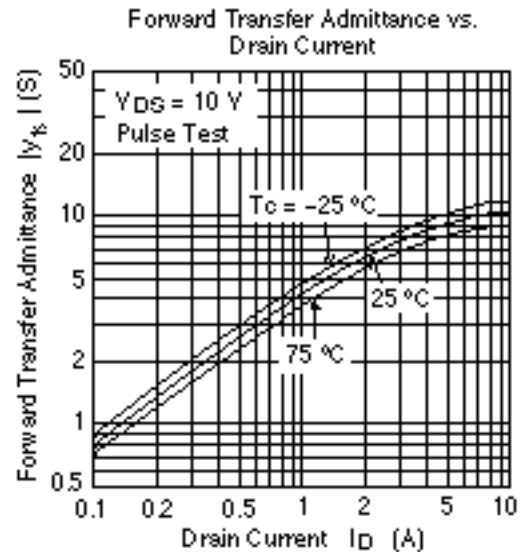
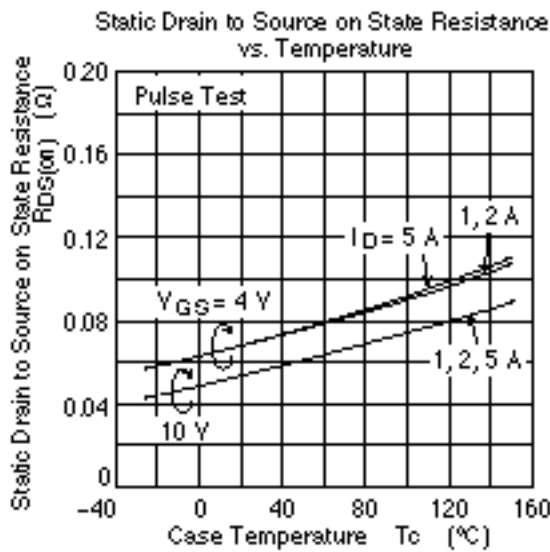
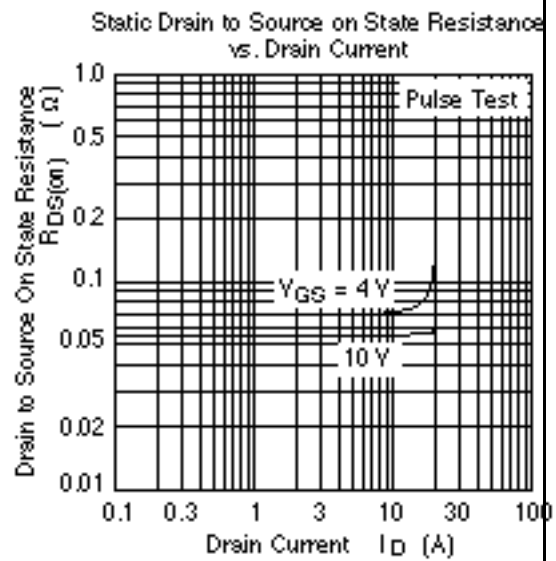
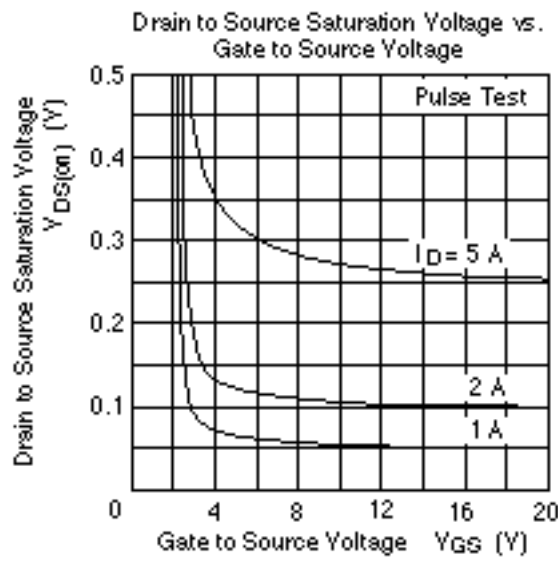
Electrical Characteristics (Ta = 25°C)

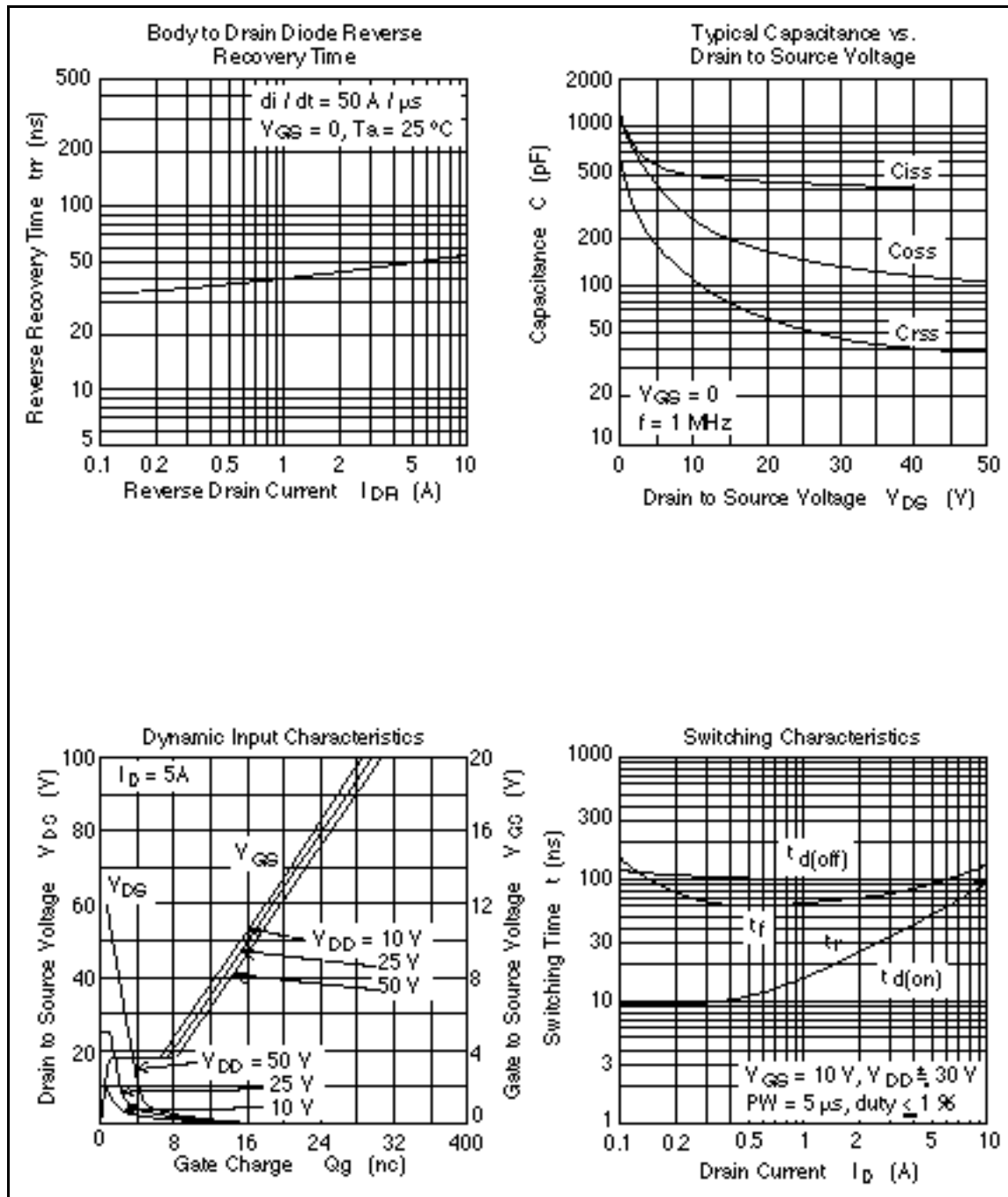
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	60	—	—	V	$I_D = 10mA, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±20	—	—	V	$I_G = ±100μA, V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	10	μA	$V_{DS} = 60V, V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	±10	μA	$V_{GS} = ±16V, V_{DS} = 0$
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	$R_{DS(on)}$	—	0.055	0.07		$I_D = 2.5A, V_{GS} = 10V^{*1}$
	$R_{DS(on)}$	—	0.07	0.1		$I_D = 2.5A, V_{GS} = 4V^{*1}$
Forward transfer admittance	$ y_{fs} $	5	7	—	S	$I_D = 2.5A, V_{DS} = 10V^{*1}$
Input capacitance	C_{iss}	—	500	—	pF	$V_{DS} = 10V$
Output capacitance	C_{oss}	—	260	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	C_{rss}	—	110	—	pF	$f = 1MHz$
Turn-on delay time	$t_{d(on)}$	—	10	—	ns	$V_{GS} = 10V, I_D = 2.5A$
Rise time	t_r	—	30	—	ns	$R_L = 12$
Turn-off delay time	$t_{d(off)}$	—	100	—	ns	
Fall time	t_f	—	75	—	ns	
Body to drain diode forward voltage	V_{DF}	—	0.9	—	V	$I_D = 5A, V_{GS} = 0$
Body to drain diode reverse recovery time	t_{rr}	—	50	—	ns	$I_F = 5A, V_{GS} = 0$ $diF/dt = 50A/μs$

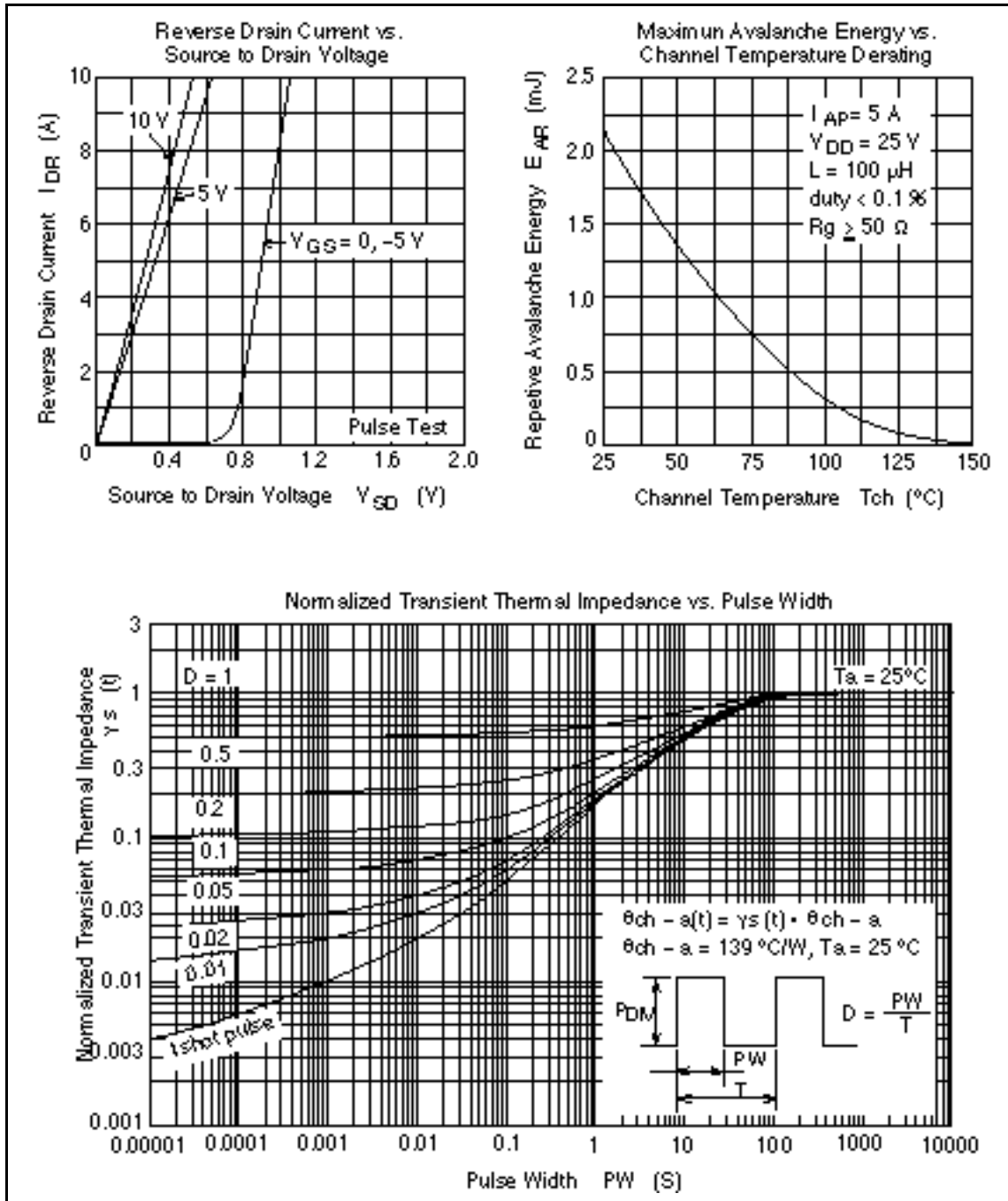
Note: 1. Pulse test

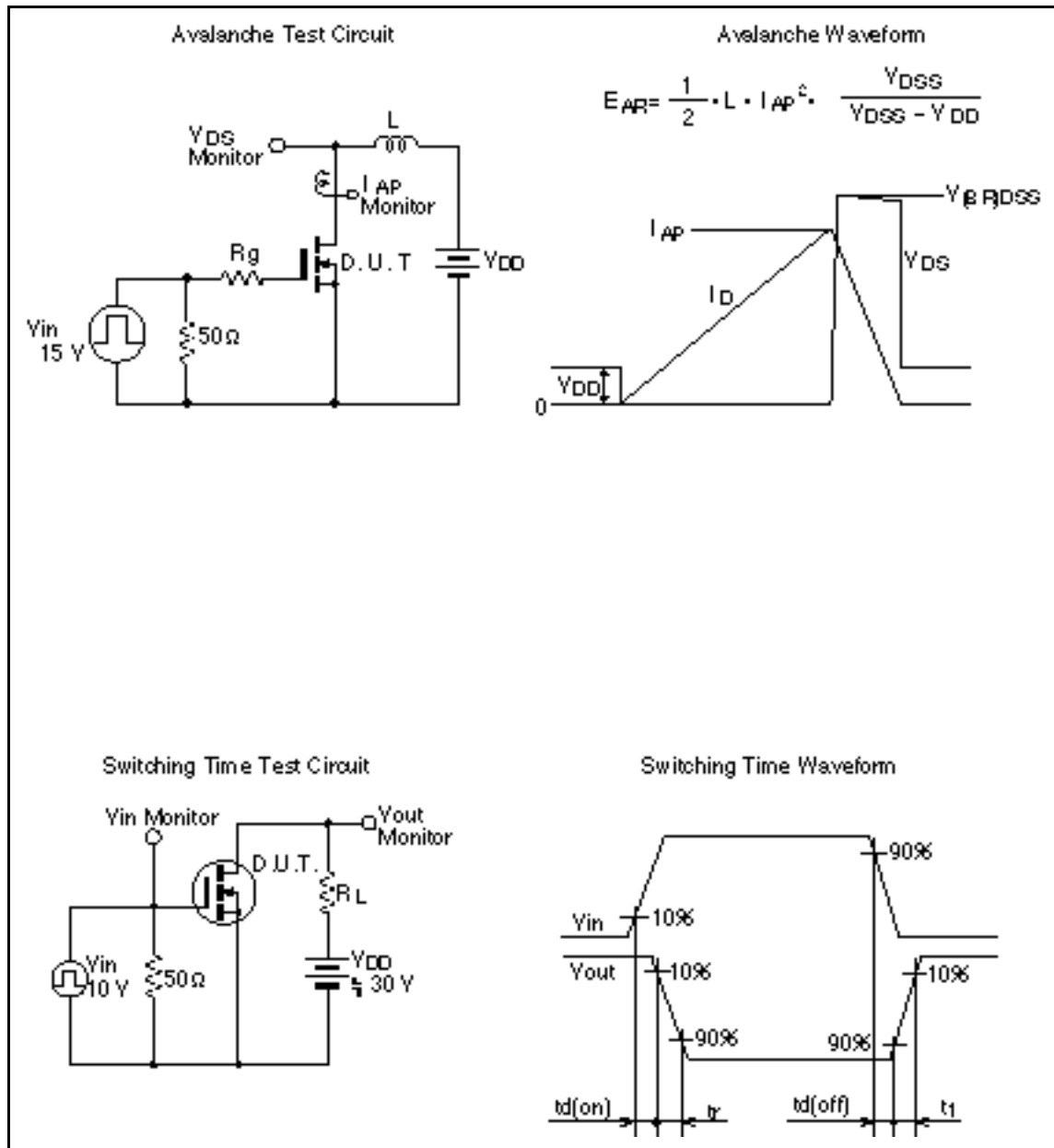
Main Characteristics





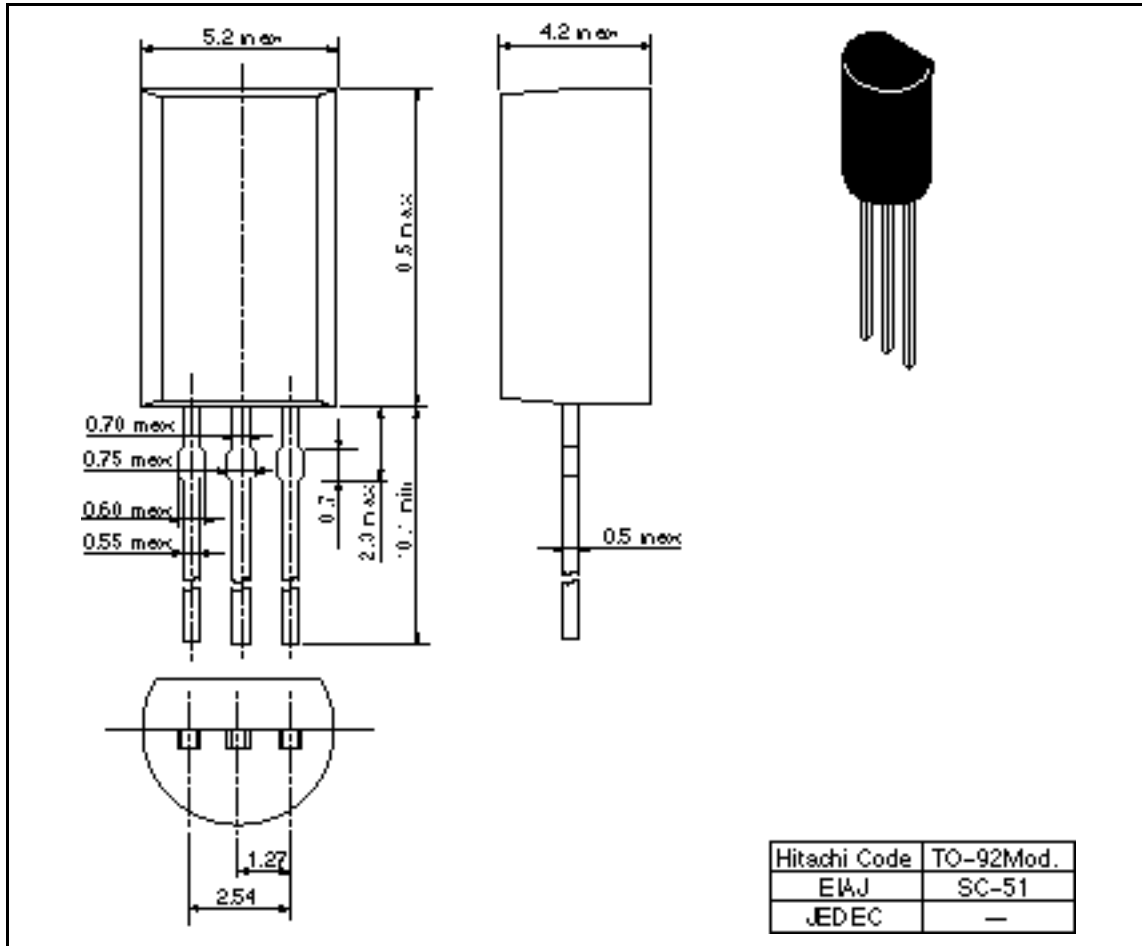






Package Dimensions

Unit: mm



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