

2SJ479(L), 2SJ479(S)

Silicon P Channel MOS FET

REJ03G0866-0300

Rev.3.00

Jun 05, 2006

Description

High speed power switching

Features

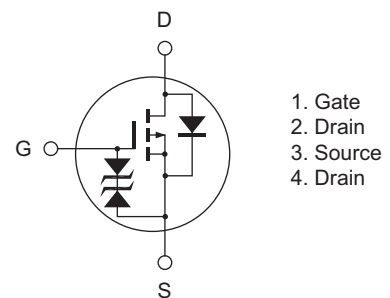
- Low on-resistance
 $R_{DS(on)} = 25\text{ m}\Omega$ typ.
- 4 V gate drive devices.
- High speed switching

Outline

RENESAS Package code: PRSS0004AE-A
(Package name: LDPAK (L))



RENESAS Package code: PRSS0004AE-B
(Package name: LDPAK (S)-(1))



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Drain to source voltage	V_{DS}	-30	V
Gate to source voltage	V_{GS}	± 20	V
Drain current	I_D	-30	A
Drain peak current	$I_{D(pulse)}$ ^{Note 1}	-120	A
Body to drain diode reverse drain current	I_{DR}	-30	A
Channel dissipation	P_{ch} ^{Note 2}	50	W
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

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

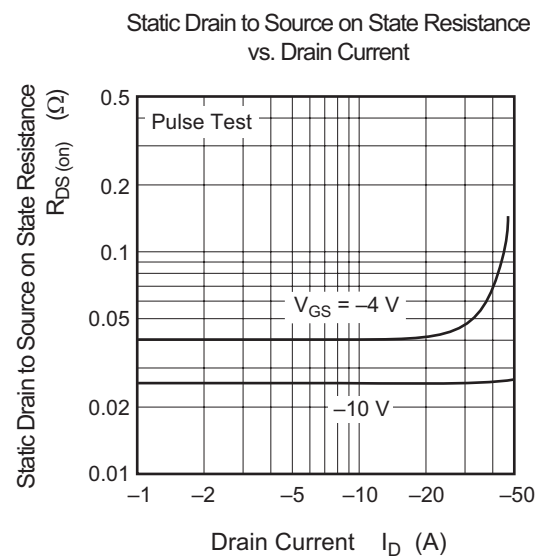
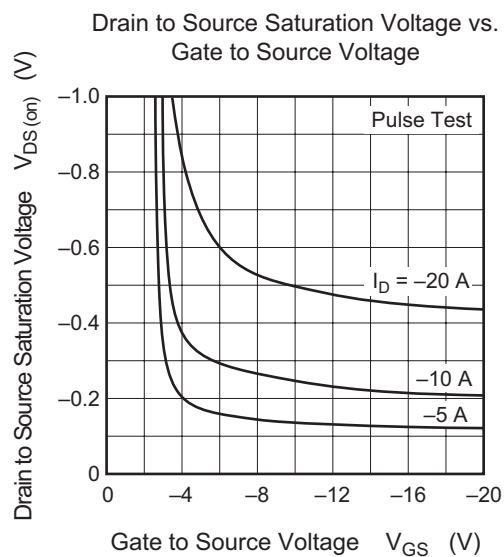
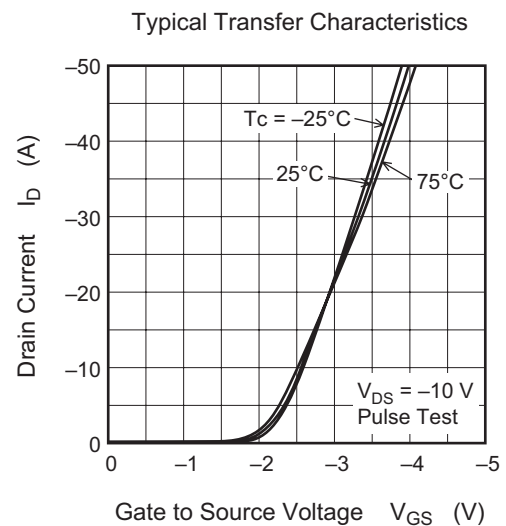
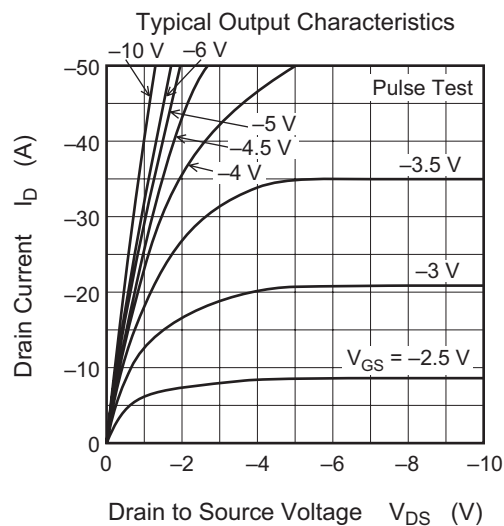
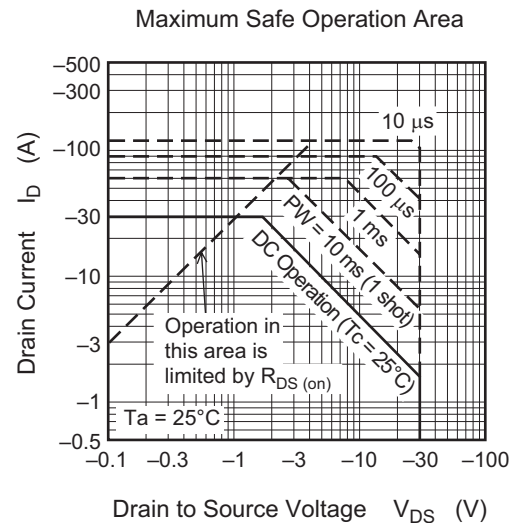
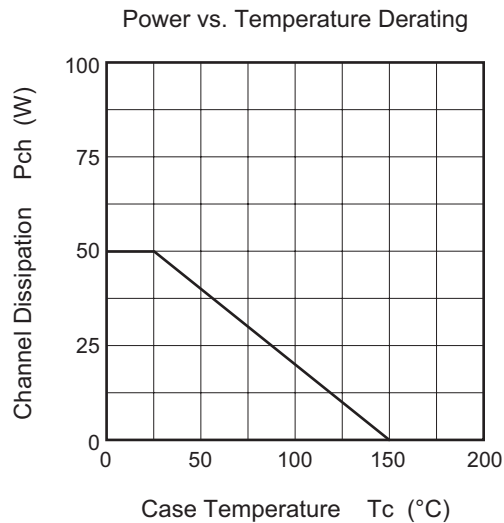
Electrical Characteristics

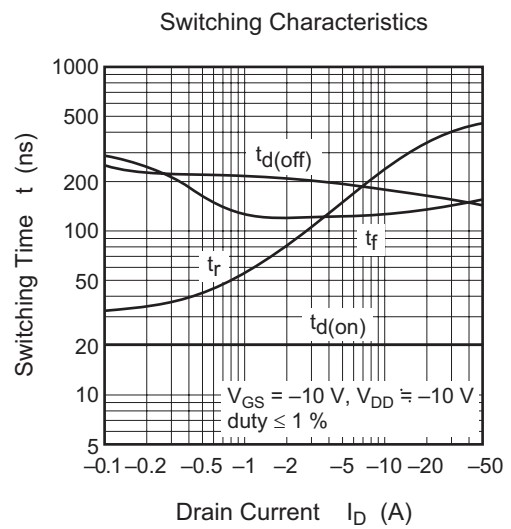
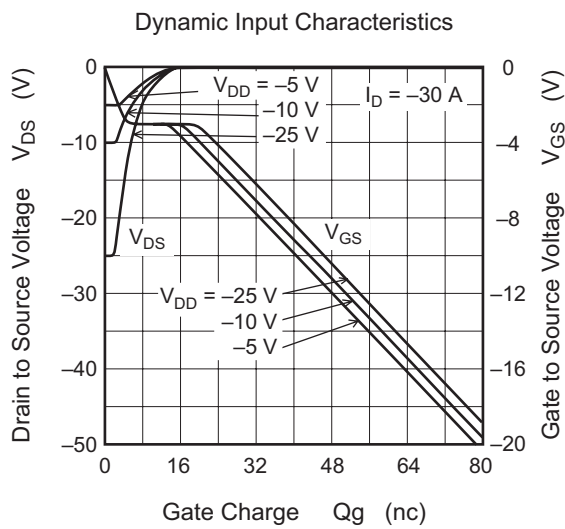
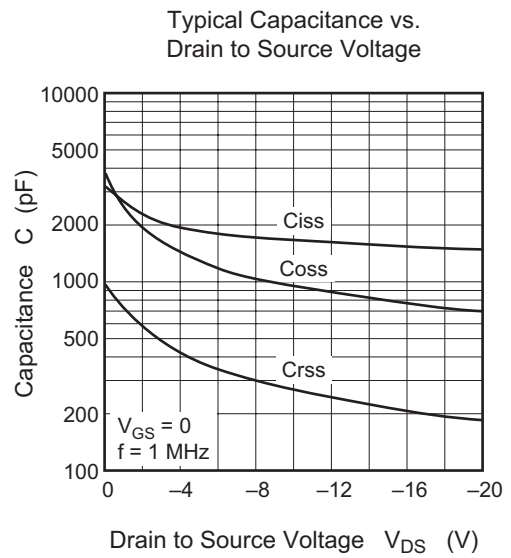
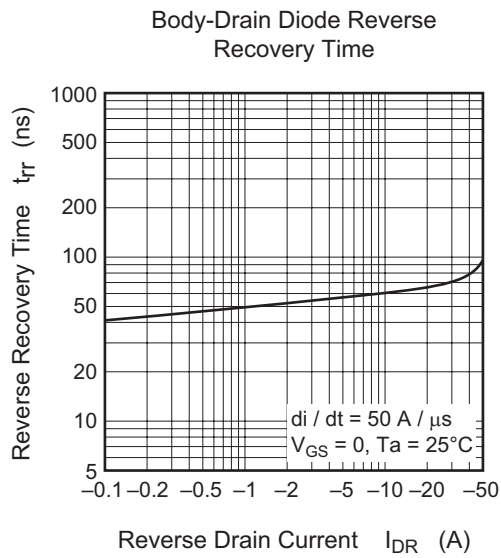
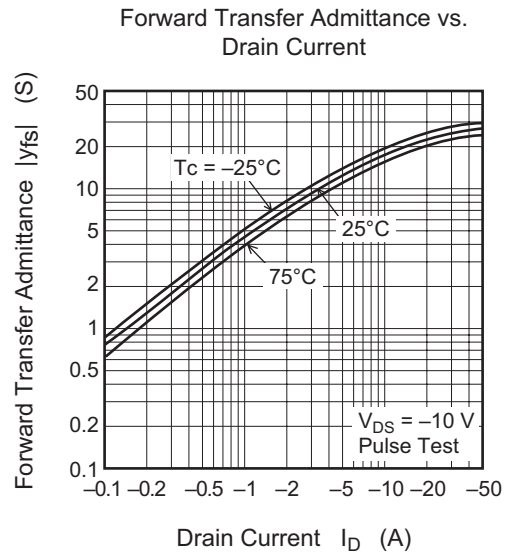
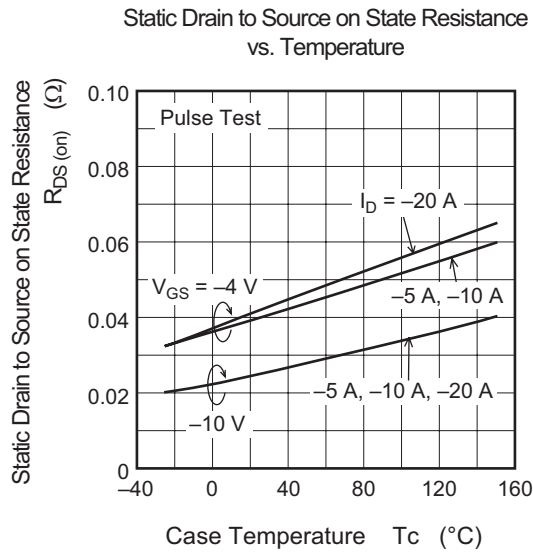
(Ta = 25°C)

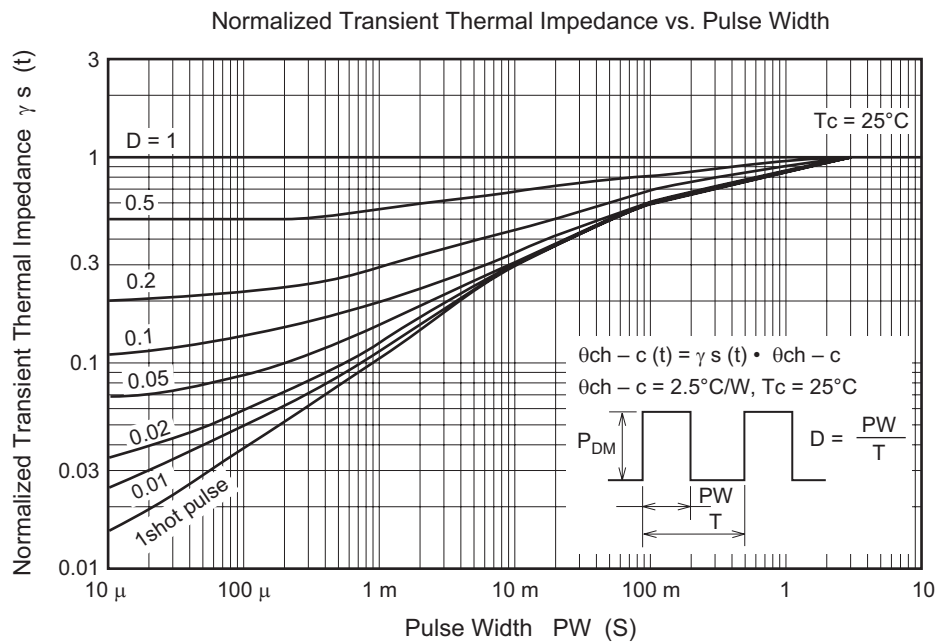
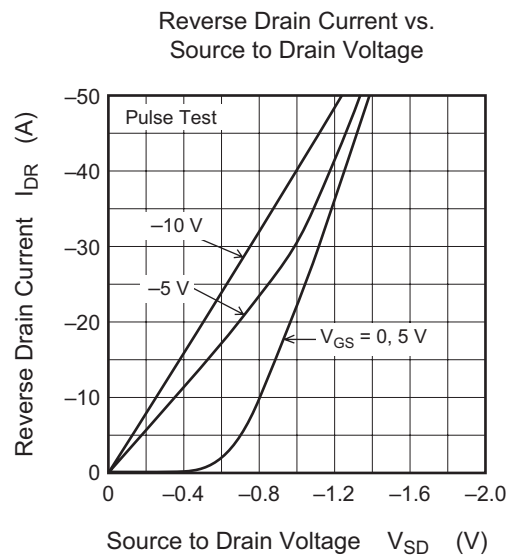
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR) DSS}$	-30	—	—	V	$I_D = -10 \text{ mA}$, $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR) GSS}$	± 20	—	—	V	$I_G = \pm 100 \mu A$, $V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	-10	μA	$V_{DS} = -30 \text{ V}$, $V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 10	μA	$V_{GS} = \pm 16 \text{ V}$, $V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	-1.0	—	-2.0	V	$I_D = -1 \text{ mA}$, $V_{DS} = -10 \text{ V}$
Static drain to source on state resistance	$R_{DS(on)}$	—	25	35	$m\Omega$	$I_D = -15 \text{ A}$, $V_{GS} = -10 \text{ V}$ ^{Note 3}
	$R_{DS(on)}$	—	40	60	$m\Omega$	$I_D = -15 \text{ A}$, $V_{GS} = -4 \text{ V}$ ^{Note 3}
Forward transfer admittance	$ y_{fs} $	12	20	—	S	$I_D = -15 \text{ A}$, $V_{DS} = -10 \text{ V}$ ^{Note 3}
Input capacitance	C_{iss}	—	1700	—	pF	$V_{DS} = -10 \text{ V}$ $V_{GS} = 0$ $f = 1 \text{ MHz}$
Output capacitance	C_{oss}	—	950	—	pF	
Reverse transfer capacitance	C_{rss}	—	260	—	pF	
Turn-on delay time	$t_{d(on)}$	—	20	—	ns	$V_{GS} = -10 \text{ V}$ $I_D = -15 \text{ A}$ $R_L = 0.67 \Omega$
Rise time	t_r	—	290	—	ns	
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	$I_F = -30 \text{ A}$, $V_{GS} = 0$
Body to drain diode reverse recovery time	t_{rr}	—	70	—	ns	$I_F = -30 \text{ A}$, $V_{GS} = 0$ $di_F/dt = 50 \text{ A}/\mu s$

Note: 3. Pulse test

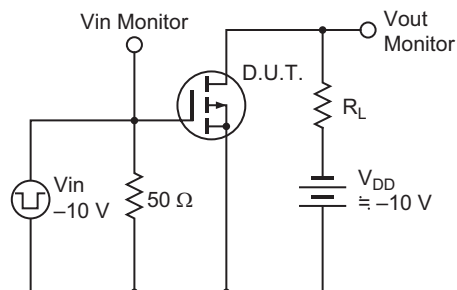
Main Characteristics



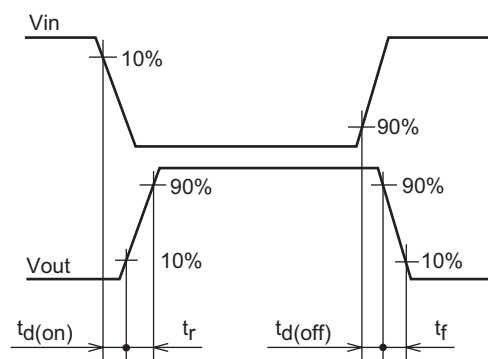




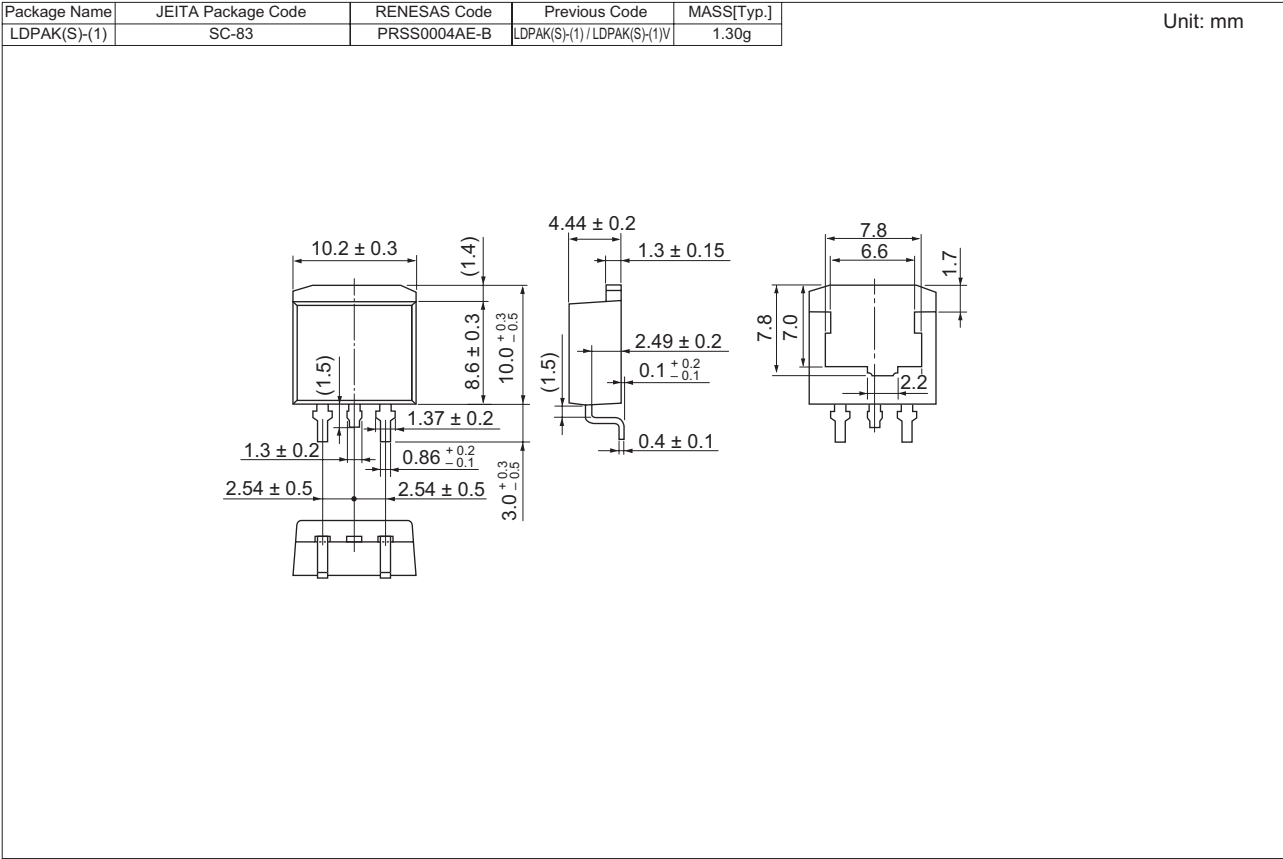
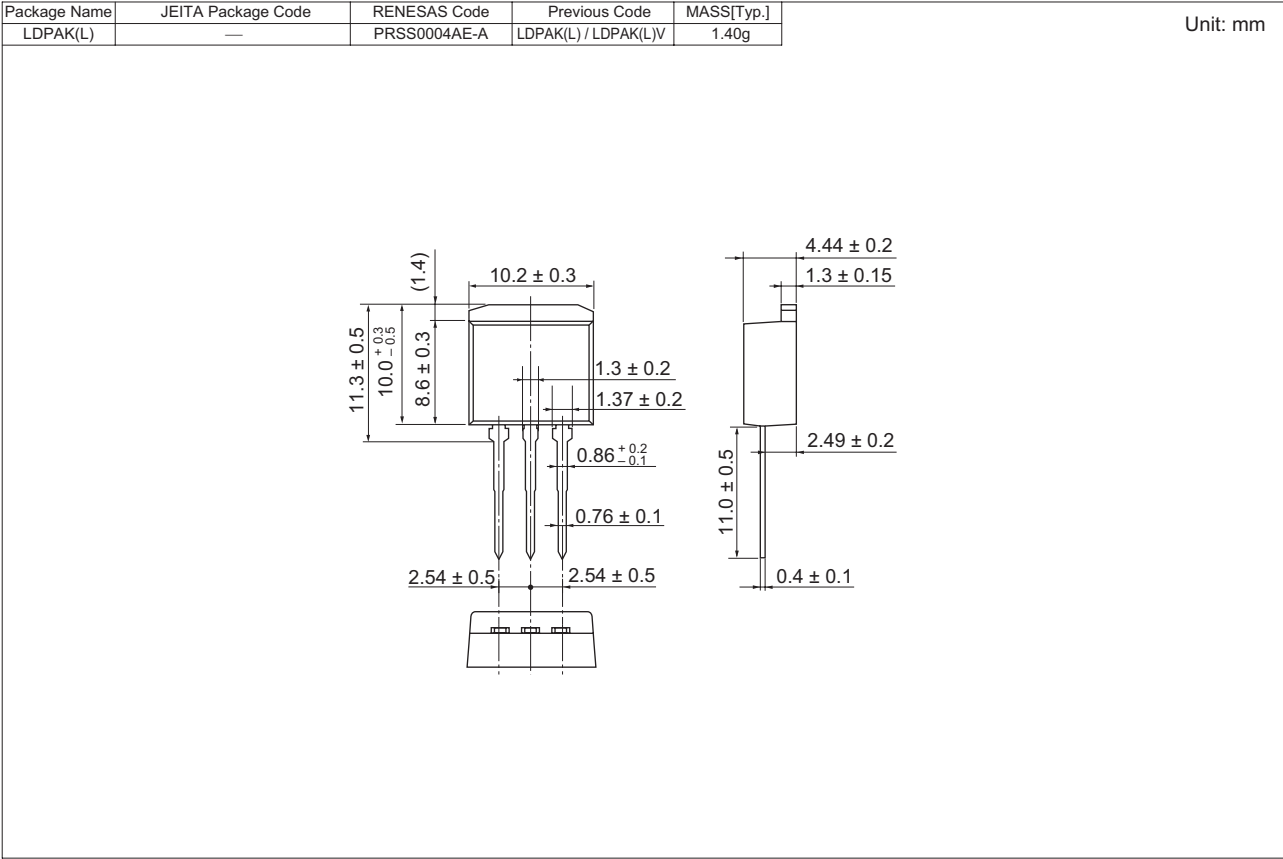
Switching Time Test Circuit



Waveform



Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SJ479L-E	500 pcs	Box (Sack)
2SJ479STL-E	1000 pcs	Taping

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