
2SK1335(L), 2SK1335(S)

Silicon N-Channel MOS FET

HITACHI

Application

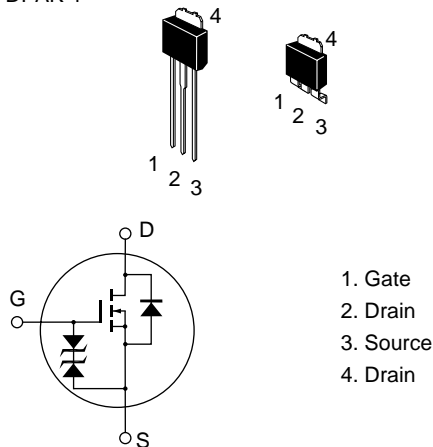
High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- No secondary breakdown
- Suitable for switching regulator and DC-DC converter

Outline

DPAK-1



2SK1335(L), 2SK1335(S)

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	200	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	3	A
Drain peak current	I _{D(pulse)} *1	12	A
Body to drain diode reverse drain current	I _{DR}	3	A
Channel dissipation	Pch*2	20	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

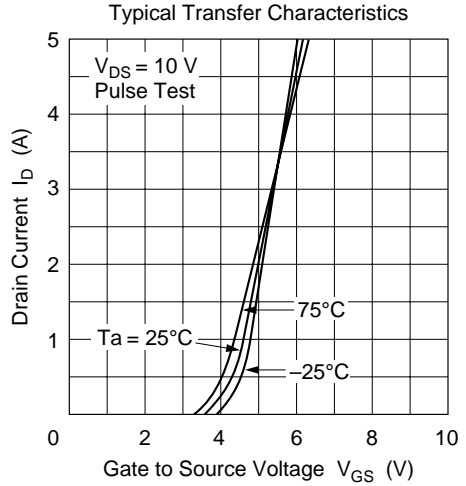
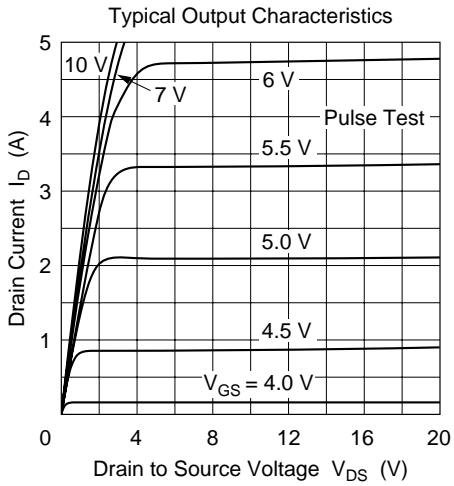
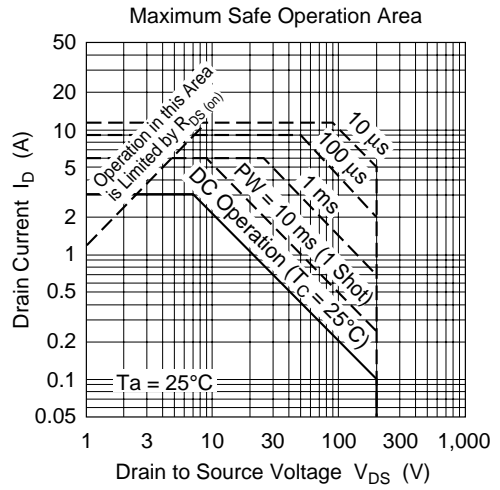
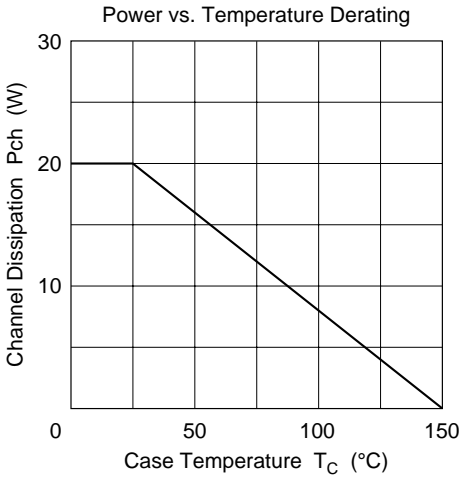
Notes: 1. PW 10 μs, duty cycle 1%

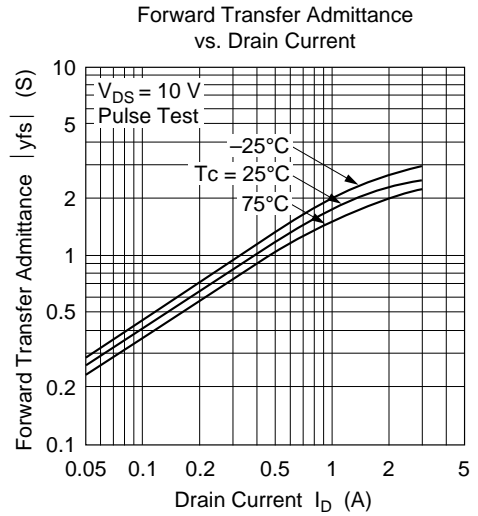
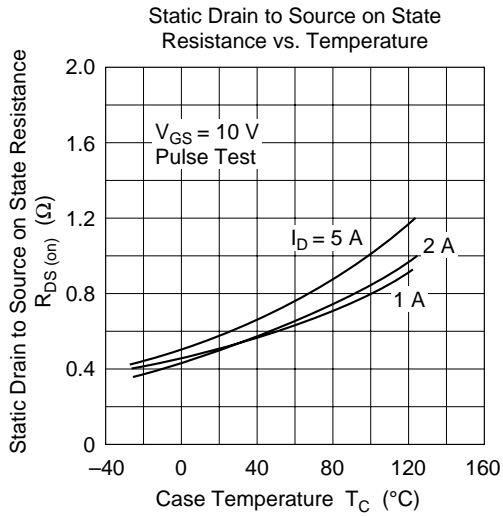
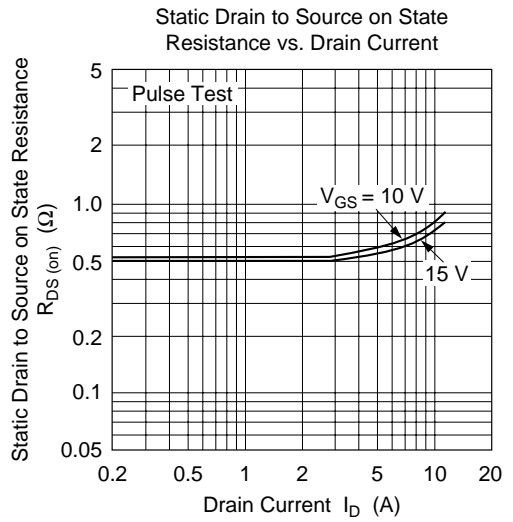
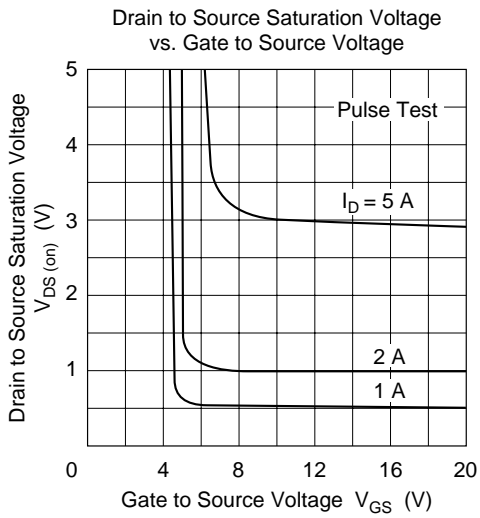
2. Value at T_c = 25°C

Electrical Characteristics (Ta = 25°C)

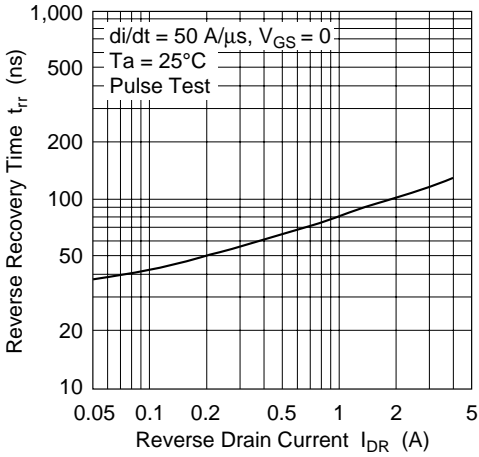
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	200	—	—	V	I _D = 10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR)GSS}	±20	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±16 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	100	μA	V _{DS} = 160 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS(off)}	2.0	—	4.0	V	I _D = 1 mA, V _{DS} = 10 V
Static drain to source on state resistance	R _{DS(on)}	—	0.5	0.8		I _D = 2 A, V _{GS} = 10 V *1
Forward transfer admittance	y _{fs}	1.5	2.3	—	S	I _D = 2 A, V _{DS} = 10 V *1
Input capacitance	C _{iss}	—	380	—	pF	V _{DS} = 10 V, V _{GS} = 0,
Output capacitance	C _{oss}	—	150	—	pF	f = 1 MHz
Reverse transfer capacitance	C _{rss}	—	35	—	pF	
Turn-on delay time	t _{d(on)}	—	10	—	ns	I _D = 2 A, V _{GS} = 10 V,
Rise time	t _r	—	27	—	ns	R _L = 15
Turn-off delay time	t _{d(off)}	—	30	—	ns	
Fall time	t _f	—	20	—	ns	
Body to drain diode forward voltage	V _{DF}	—	1.0	—	V	I _F = 3 A, V _{GS} = 0
Body to drain diode reverse recovery time	t _{rr}	—	120	—	ns	I _F = 3 A, V _{GS} = 0, di _F /dt = 50 A/μs

Note: 1. Pulse test

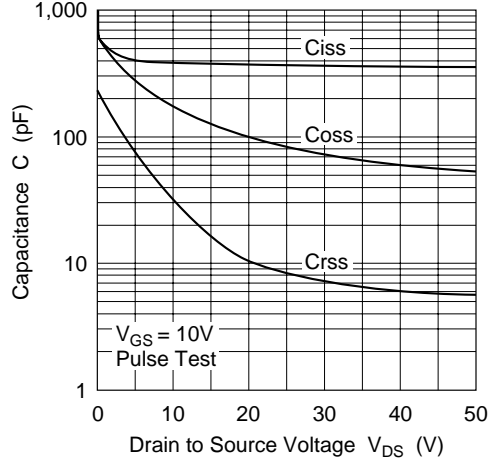




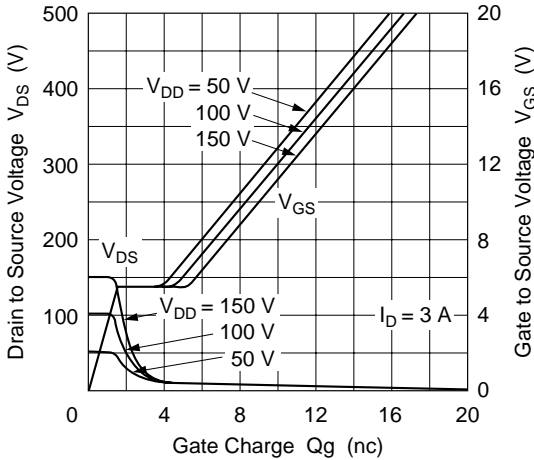
Body to Drain Diode Reverse Recovery Time



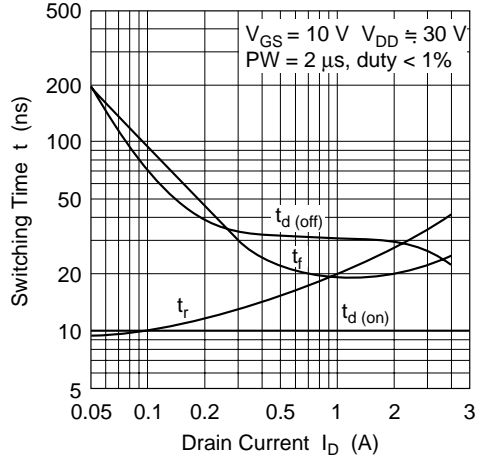
Typical Capacitance vs. Drain to Source Voltage

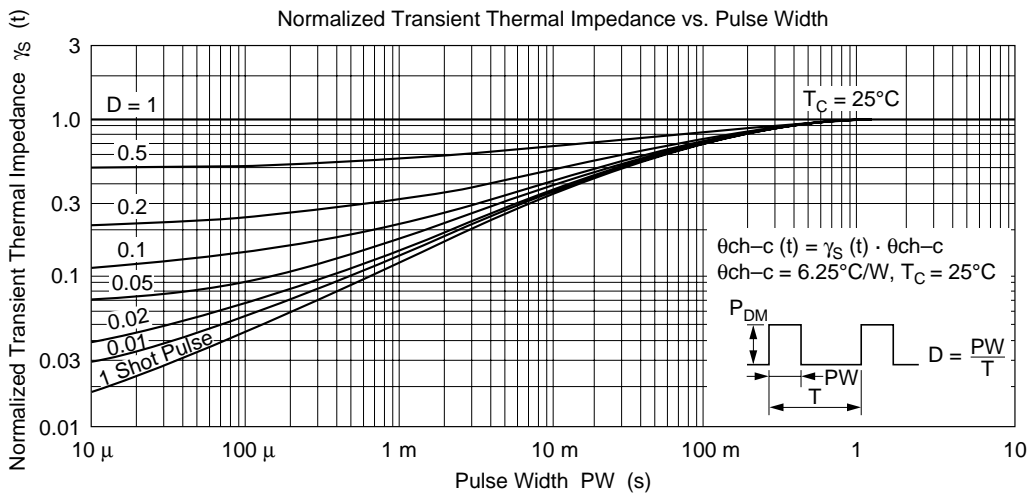
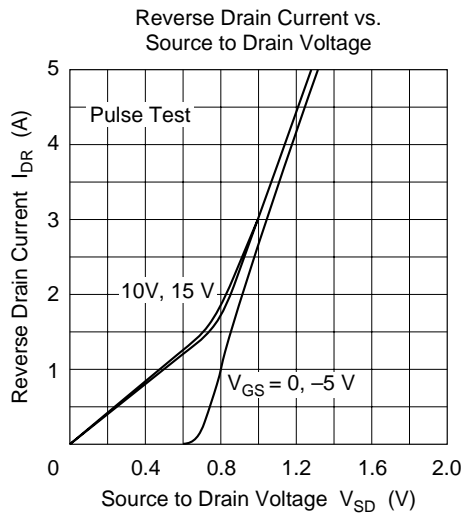


Dynamic Input Characteristics

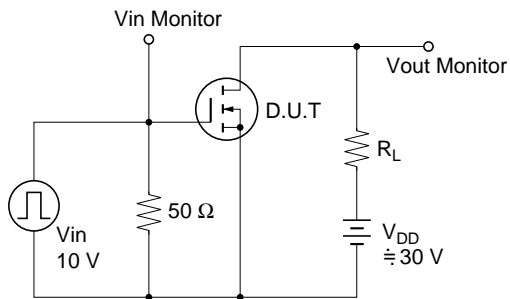


Switching Characteristics

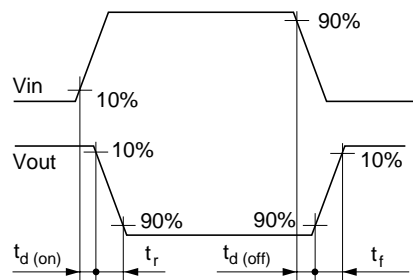




Switching Time Test Circuit



Waveforms



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