



2SK1521, 2SK1522

Silicon N Channel MOS FET

REJ03G0949-0200
(Previous: ADE-208-1289)
Rev.2.00
Sep 07, 2005

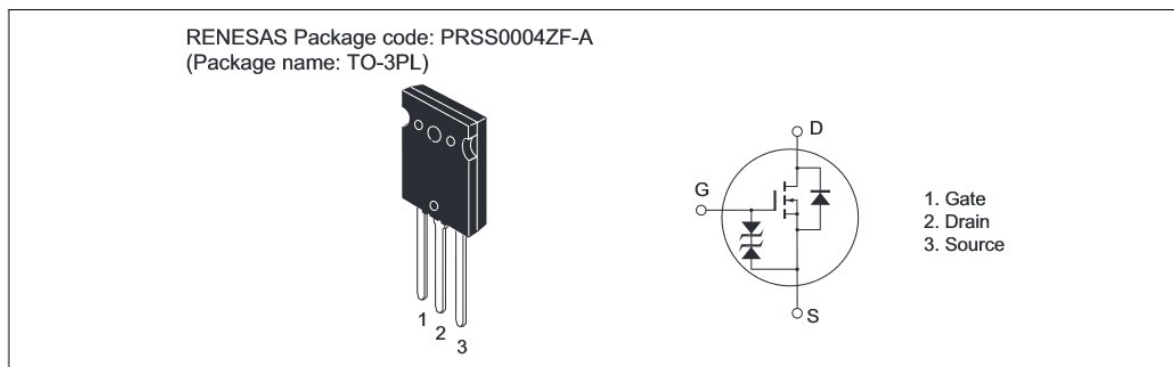
Application

High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- Built-in fast recovery diode ($t_{rr} = 120$ ns)
- Suitable for motor control, switching regulator, DC-DC converter

Outline



2SK1521, 2SK1522**Absolute Maximum Ratings**

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	2SK1521	450	V
	2SK1522	500	
Gate to source voltage	V _{GSS}	±30	V
Drain current	I _D	50	A
Drain peak current	I _{D(pulse)} *1	200	A
Body to drain diode reverse drain current	I _{DR}	50	A
Channel dissipation	P _{ch} *2	250	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Notes: 1. PW = 10 μs, duty cycle = 1%

2. Value at T_C = 25°C**Electrical Characteristics**

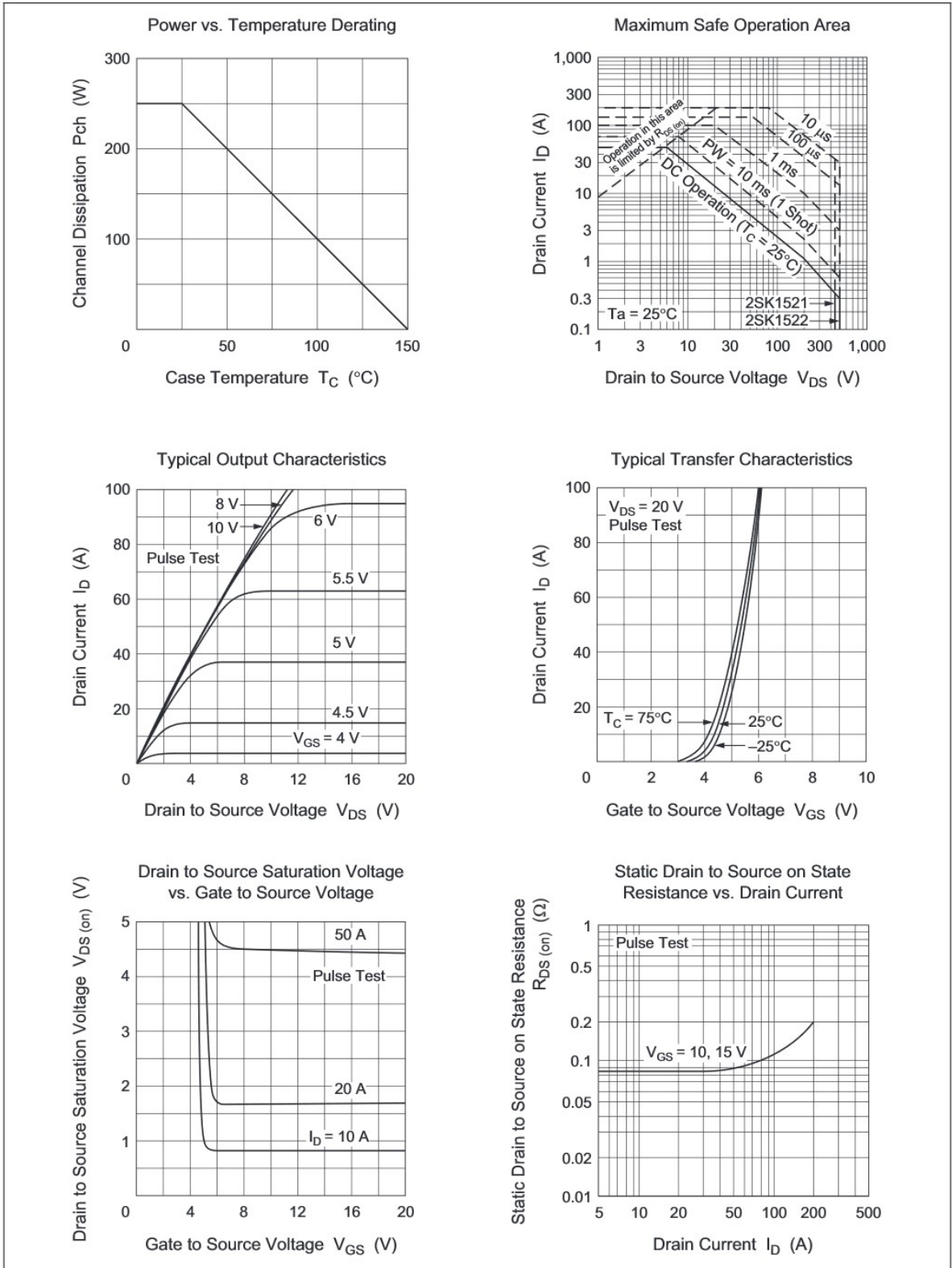
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions	
Drain to source breakdown voltage	2SK1521	450	—	—	V	I _D = 10 mA, V _{GS} = 0	
	2SK1522	500					
Gate to source breakdown voltage	V _{(BR)GSS}	±30	—	—	V	I _G = ±100 μA, V _{DS} = 0	
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±25 V, V _{DS} = 0	
Zero gate voltage drain current	2SK1521	I _{DSS}	—	250	μA	V _{DS} = 360 V, V _{GS} = 0	
	2SK1522					V _{DS} = 400 V, V _{GS} = 0	
Gate to source cutoff voltage	V _{GS(off)}	2.0	—	3.0	V	I _D = 1 mA, V _{DS} = 10 V	
Static drain to source on state resistance	2SK1521	R _{DS(on)}	—	0.08	0.10	?	I _D = 25 A, V _{GS} = 10 V *3
	2SK1522		—	0.085	0.11		
Forward transfer admittance	y _{fs}	22	35	—	S	I _D = 25 A, V _{DS} = 10 V *3	
Input capacitance	C _{iss}	—	8700	—	pF	V _{DS} = 10 V, V _{GS} = 0, f = 1 MHz	
Output capacitance	C _{oss}	—	2400	—	pF		
Reverse transfer capacitance	C _{rss}	—	235	—	pF		
Turn-on delay time	t _{d(on)}	—	85	—	ns	I _D = 25 A, V _{GS} = 10 V, R _L = 1.2 Ω	
Rise time	t _r	—	250	—	ns		
Turn-off delay time	t _{d(off)}	—	600	—	ns		
Fall time	t _f	—	250	—	ns		
Body to drain diode forward voltage	V _{DF}	—	1.1	—	V	I _F = 50 A, V _{GS} = 0	
Body to drain diode reverse recovery time	t _{rr}	—	120	—	ns	I _F = 50 A, V _{GS} = 0, di _F /dt = 100 A/μs	

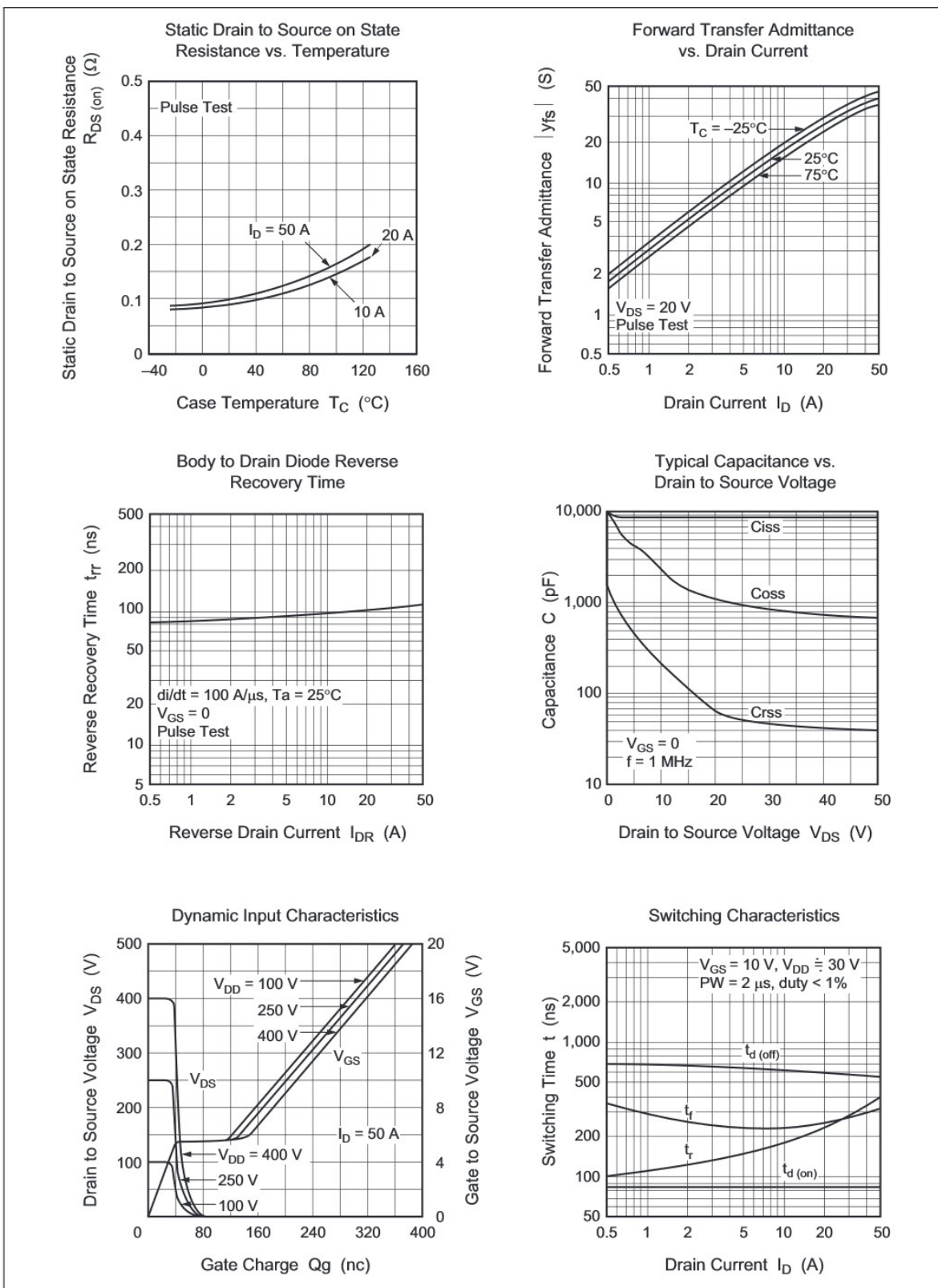
Note: 3. Pulse test

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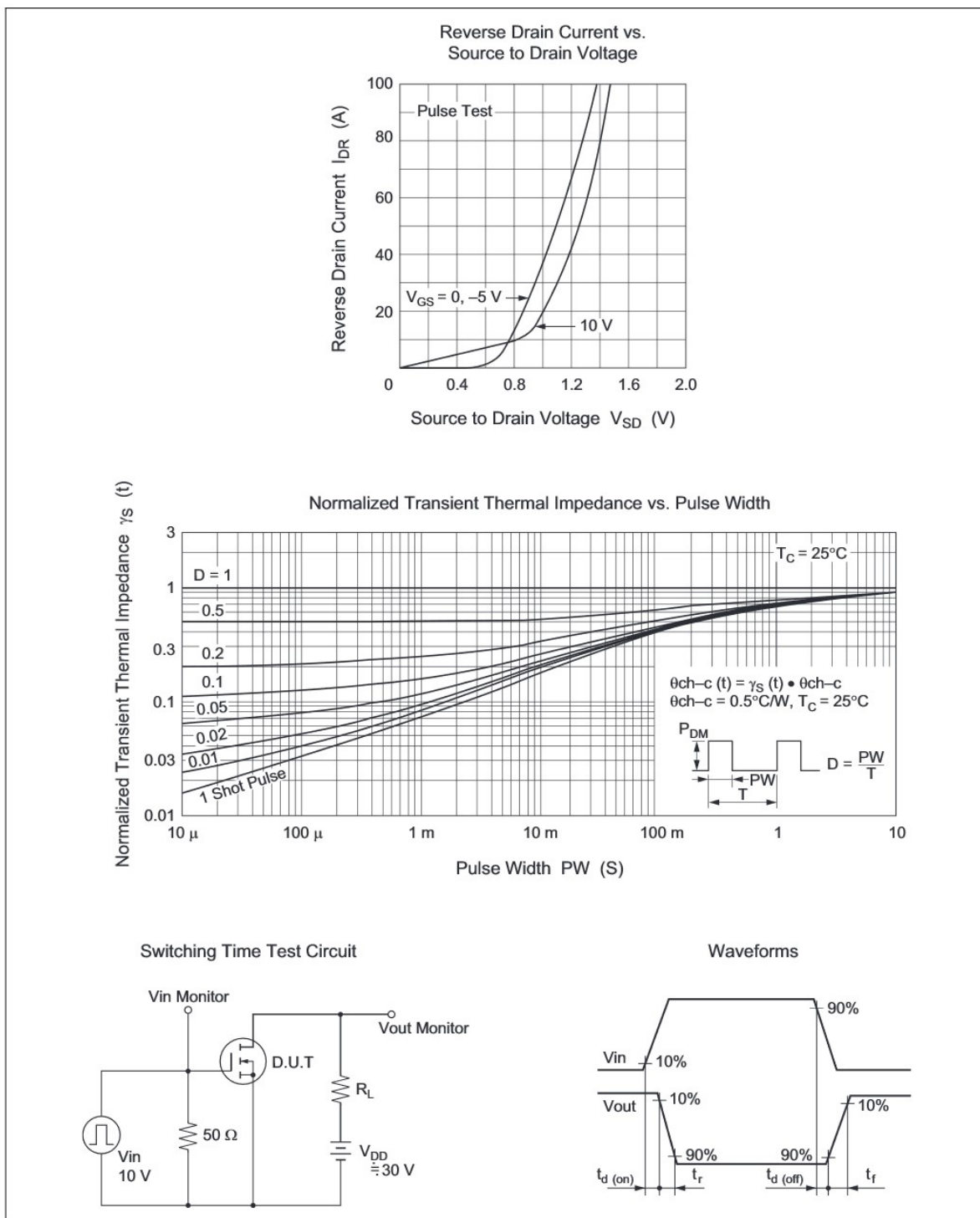
Main Characteristics

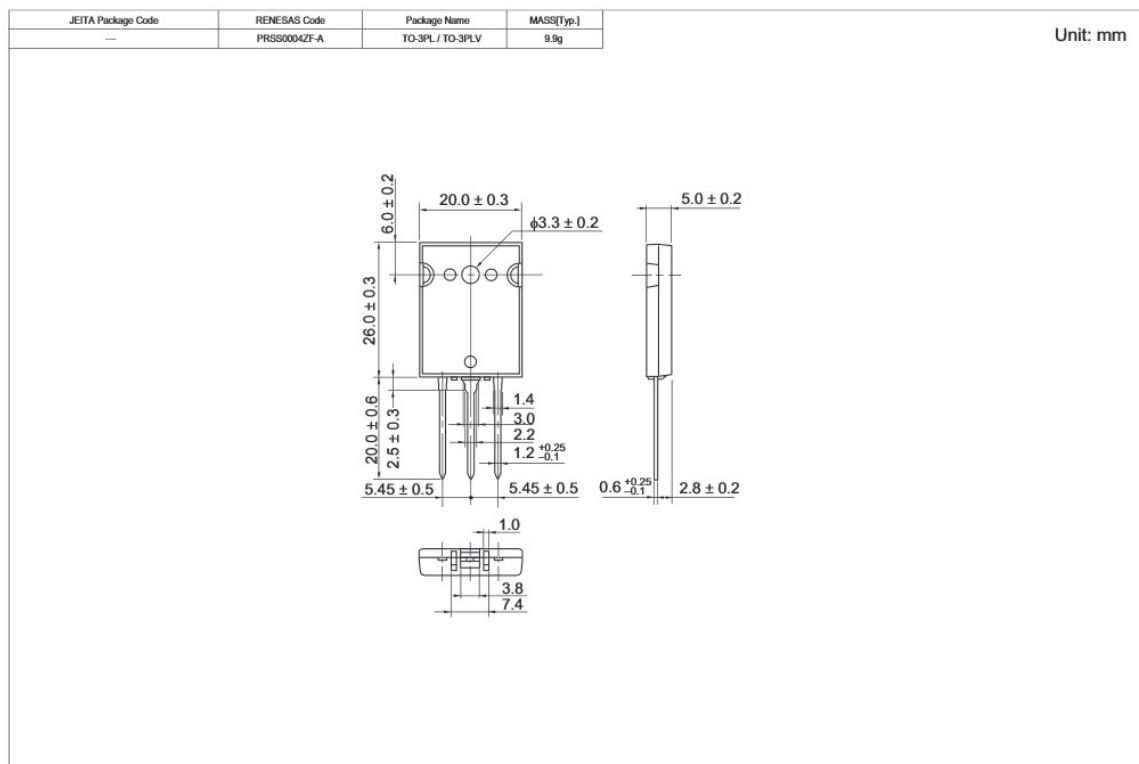


2SK1521, 2SK1522



2SK1521, 2SK1522



2SK1521, 2SK1522**Package Dimensions****Ordering Information**

Part Name	Quantity	Shipping Container
2SK1521-E	500 pcs	Box (Case)
2SK1522-E	500 pcs	Box (Case)

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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