

# 2SK2737

# Silicon N Channel MOS FET High Speed Power Switching

REJ03G1031-0400

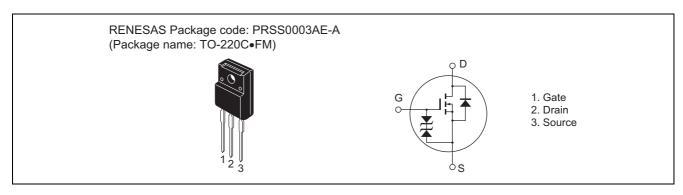
(Previous: ADE-208-533B)

Rev.4.00 Sep 07, 2005

## **Features**

- Low on-resistance  $R_{DS(on)} = 10 \ m\Omega \ typ.$
- 4 V gate drive devices.
- High speed switching

### **Outline**



# **Absolute Maximum Ratings**

 $(Ta = 25^{\circ}C)$ 

Item	Symbol	Ratings	Unit
Drain to source voltage	V <sub>DSS</sub>	30	V
Gate to source voltage	$V_{GSS}$	±20	V
Drain current	I <sub>D</sub>	45	Α
Drain peak current	I <sub>D(pulse)</sub> Note1	180	Α
Body-drain diode reverse drain current	I <sub>DR</sub>	45	Α
Channel dissipation	Pch <sup>Note2</sup>	30	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Notes: 1. PW  $\leq$  10 $\mu$ s, duty cycle  $\leq$  1 %

2. Value at Tc = 25°C

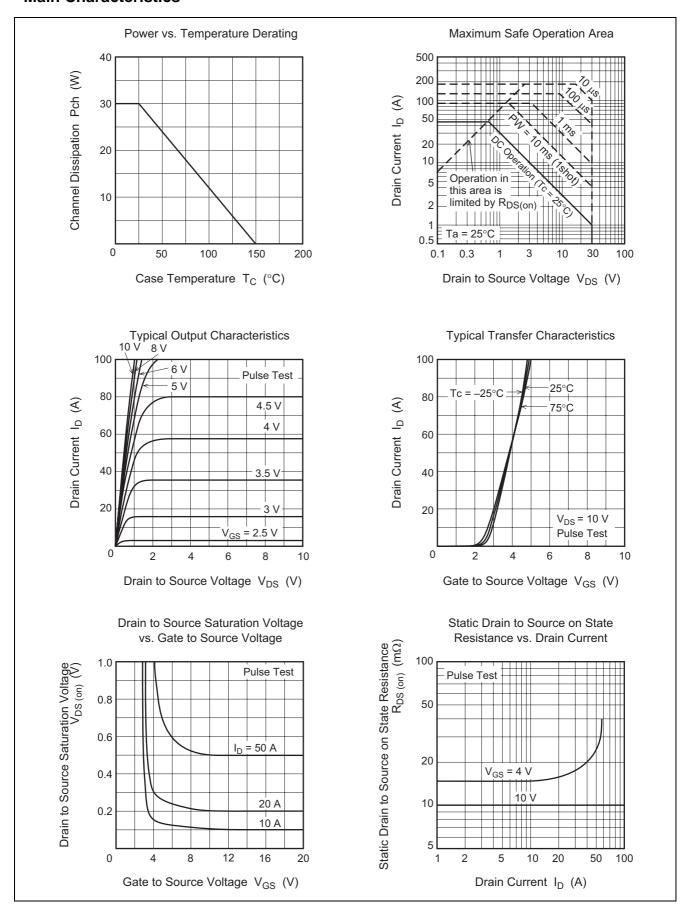
# **Electrical Characteristics**

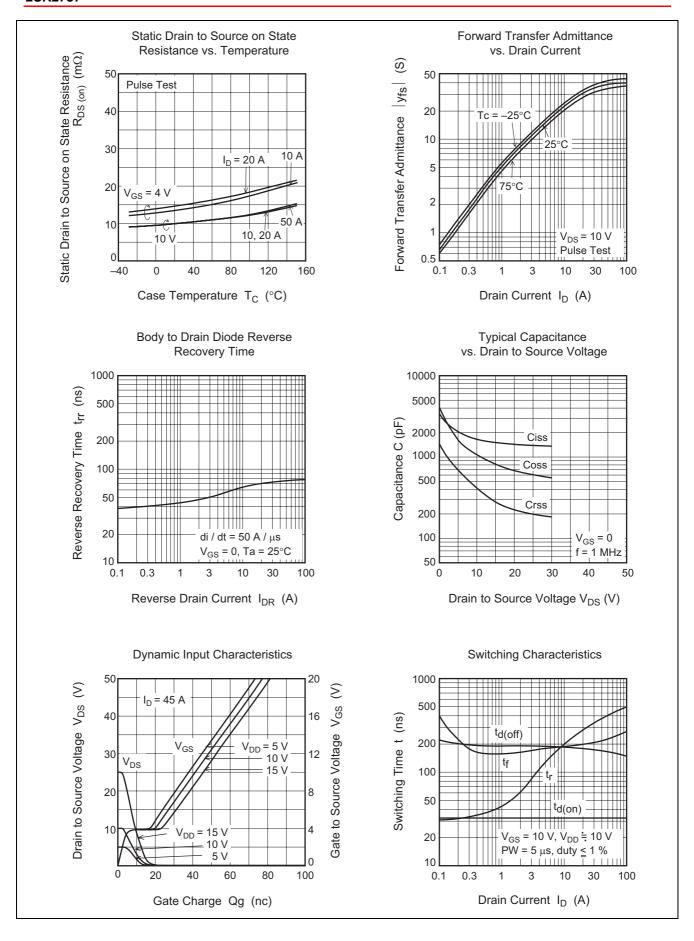
 $(Ta = 25^{\circ}C)$ 

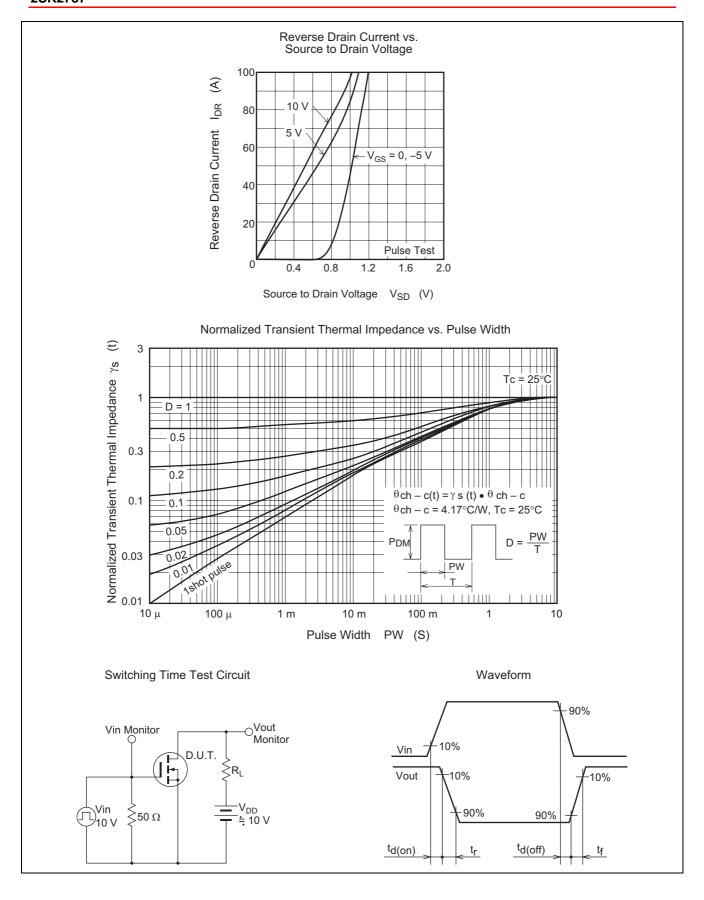
Item	Symbol	Min	Тур	Max	Unit	Test Conditions	
Drain to source breakdown voltage	$V_{(BR)DSS}$	30	_	_	V	$I_D = 10 \text{ mA}, V_{GS} = 0$	
Gate to source breakdown voltage	$V_{(BR)GSS}$	±20	_	_	V	$I_G = \pm 100 \ \mu A, \ V_{DS} = 0$	
Gate to source leak current	I <sub>GSS</sub>	_	_	±10	μΑ	$V_{GS} = \pm 16 \text{ V}, V_{DS} = 0$	
Zero gate voltage drain current	I <sub>DSS</sub>	_	_	10	μΑ	$V_{DS} = 30 \text{ V}, V_{GS} = 0$	
Gate to source cutoff voltage	$V_{GS(off)}$	1.0	_	2.0	V	$I_D = 1 \text{ mA}, V_{DS} = 10 \text{ V}^{\text{Note3}}$	
Static drain to source on state	R <sub>DS(on)</sub>	_	10	14	mΩ	$I_D = 20 \text{ A}, V_{GS} = 10 \text{ V}^{\text{Note3}}$	
resistance	R <sub>DS(on)</sub>	_	15	25	mΩ	$I_D = 20 \text{ A}, V_{GS} = 4 \text{ V}^{\text{Note3}}$	
Forward transfer admittance	y <sub>fs</sub>	20	30	_	S	$I_D = 20 \text{ A}, V_{DS} = 10 \text{ V}^{\text{Note3}}$	
Input capacitance	Ciss	_	1570	_	pF	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$	
Output capacitance	Coss	_	1100	_	pF	f = 1MHz	
Reverse transfer capacitance	Crss	_	410	_	pF		
Turn-on delay time	t <sub>d(on)</sub>	_	32	_	ns	$V_{GS} = 10 \text{ V}, I_D = 20 \text{ A},$	
Rise time	t <sub>r</sub>	_	300	_	ns	$R_L = 0.5 \Omega$	
Turn-off delay time	$t_{d(off)}$	_	180	_	ns		
Fall time	t <sub>f</sub>	_	200	_	ns		
Body-drain diode forward voltage	$V_{DF}$	_	1.0	_	V	$I_F = 45 \text{ A}, V_{GS} = 0$	
Body-drain diode reverse	t <sub>rr</sub>	_	75	_	ns	$I_F = 45 \text{ A}, V_{GS} = 0$	
recovery time						$di_F/dt = 50A/\mu s$	

Note: 3. Pulse test

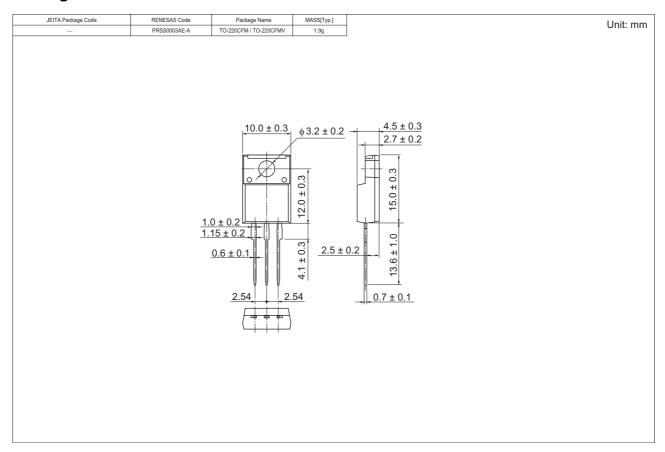
### **Main Characteristics**







# **Package Dimensions**



# **Ordering Information**

Part Name	Quantity	Shipping Container
2SK2737-E	50 pcs	Plastic magazine

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