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# 2SK2737

Silicon N Channel MOS FET  
High Speed Power Switching

# HITACHI

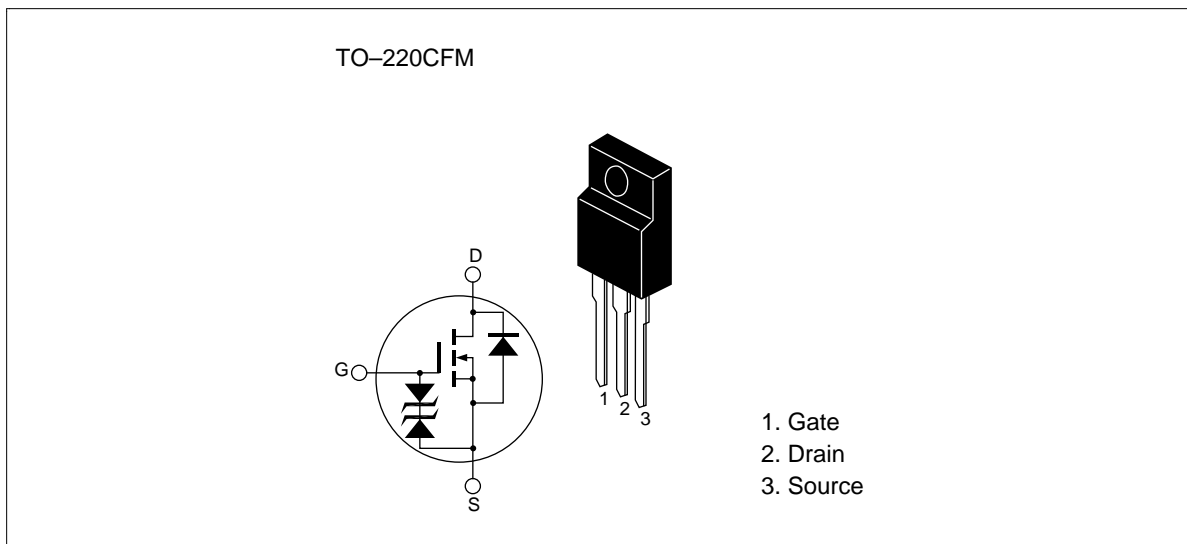
ADE-208-533B(Z)  
3rd. Edition  
June 1, 1998

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## Features

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

## Outline



## 2SK2737

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{DSS}$	30	V
Gate to source voltage	$V_{GSS}$	±20	V
Drain current	$I_D$	45	A
Drain peak current	$I_{D(pulse)}$ <sup>Note1</sup>	180	A
Body-drain diode reverse drain current	$I_{DR}$	45	A
Channel dissipation	$P_{ch}$ <sup>Note2</sup>	30	W
Channel temperature	$T_{ch}$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

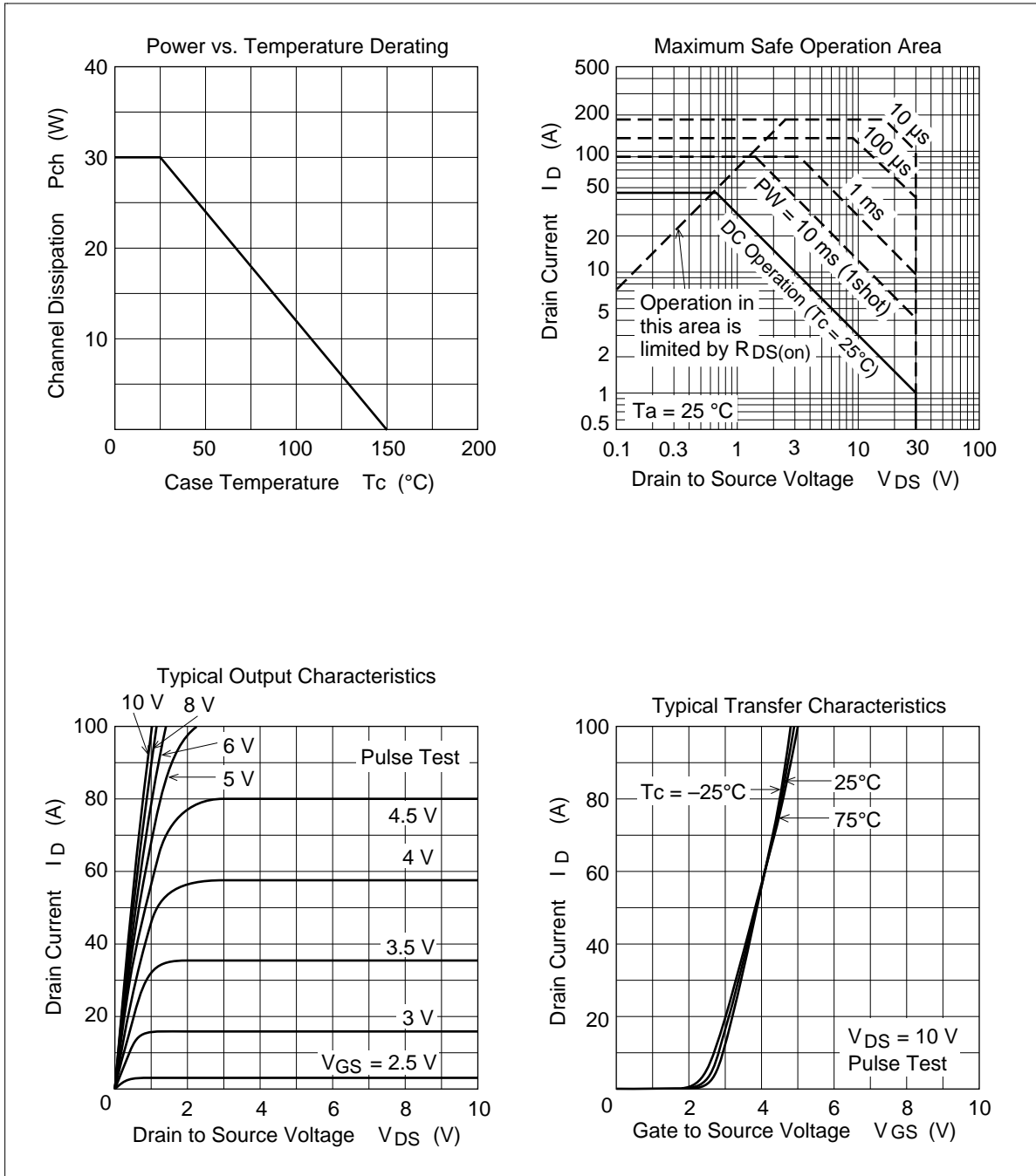
Note: 1.  $PW \leq 10\mu s$ , duty cycle  $\leq 1\%$   
 2. Value at  $T_c = 25^\circ C$

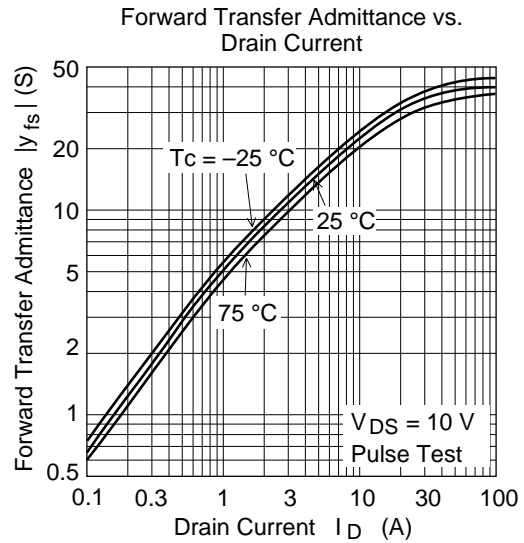
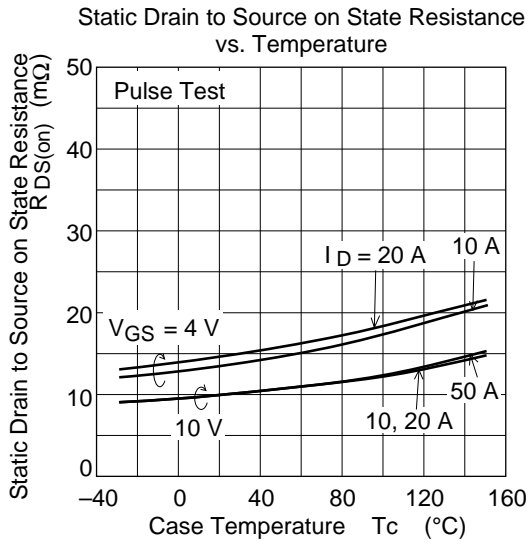
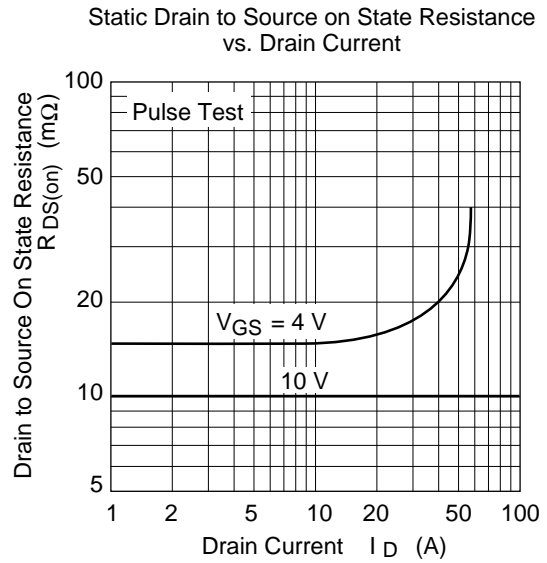
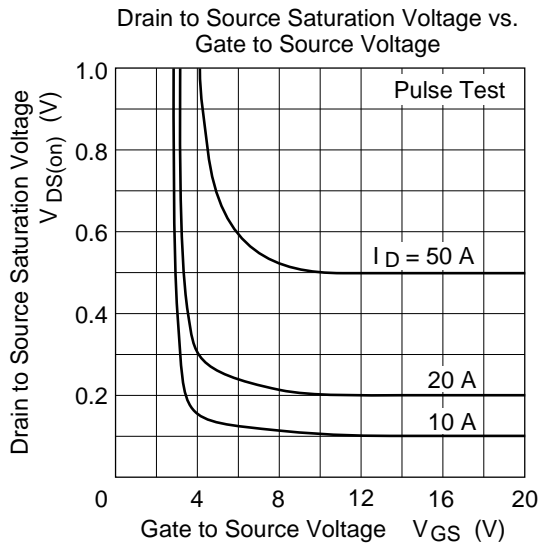
### Electrical Characteristics (Ta = 25°C)

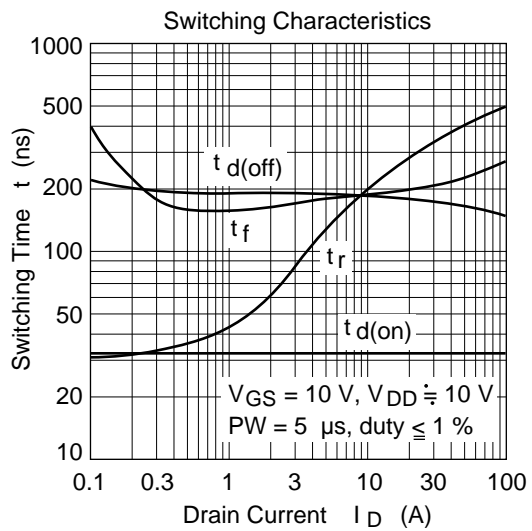
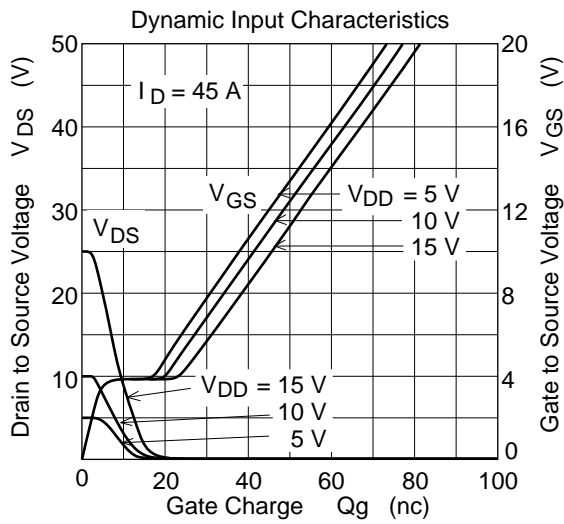
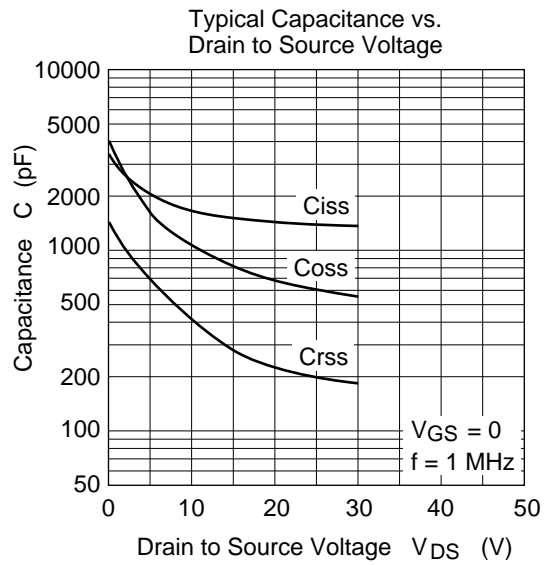
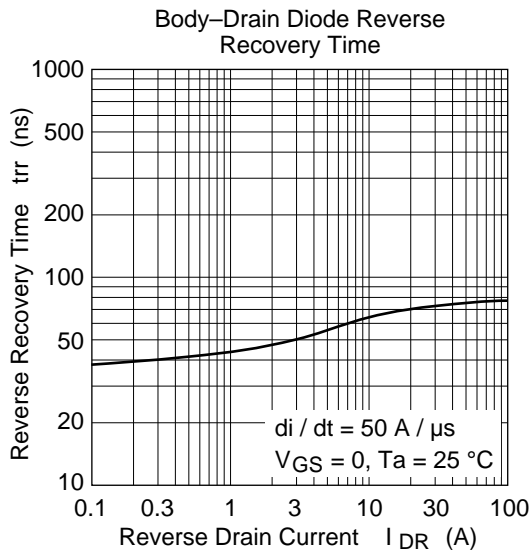
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	30	—	—	V	$I_D = 10mA, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±20	—	—	V	$I_G = \pm 100\mu A, V_{DS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	±10	μA	$V_{GS} = \pm 16V, V_{DS} = 0$
Zero gate voltage drain current	$I_{DSS}$	—	—	10	μA	$V_{DS} = 30V, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	1.0	—	2.0	V	$I_D = 1mA, V_{DS} = 10V$ <sup>Note3</sup>
Static drain to source on state resistance	$R_{DS(on)}$	—	10	14	mΩ	$I_D = 20A, V_{GS} = 10V$ <sup>Note3</sup>
Static drain to source on state resistance	$R_{DS(on)}$	—	15	25	mΩ	$I_D = 20A, V_{GS} = 4V$ <sup>Note3</sup>
Forward transfer admittance	$ y_{fs} $	20	30	—	S	$I_D = 20A, V_{DS} = 10V$ <sup>Note3</sup>
Input capacitance	$C_{iss}$	—	1570	—	pF	$V_{DS} = 10V$
Output capacitance	$C_{oss}$	—	1100	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	$C_{rss}$	—	410	—	pF	$f = 1MHz$
Turn-on delay time	$t_{d(on)}$	—	32	—	ns	$V_{GS} = 10V, I_D = 25A$
Rise time	$t_r$	—	300	—	ns	$R_L = 0.4\Omega$
Turn-off delay time	$t_{d(off)}$	—	180	—	ns	
Fall time	$t_f$	—	200	—	ns	
Body-drain diode forward voltage	$V_{DF}$	—	1.0	—	V	$I_F = 45A, V_{GS} = 0$
Body-drain diode reverse recovery time	$t_{rr}$	—	75	—	ns	$I_F = 45A, V_{GS} = 0$ $di_F/dt = 50A/\mu s$

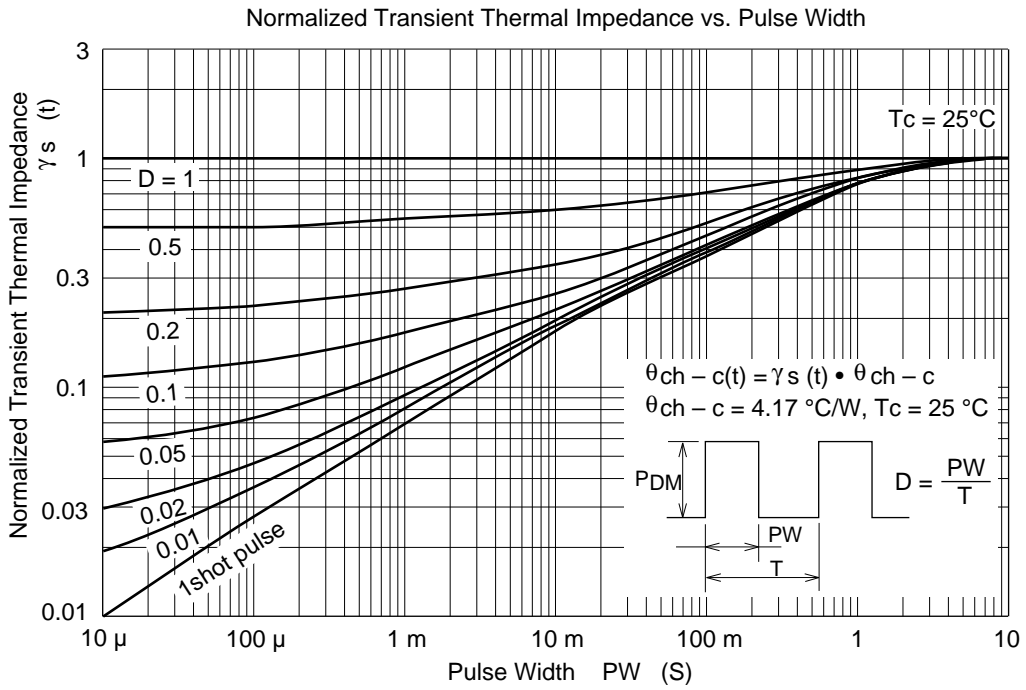
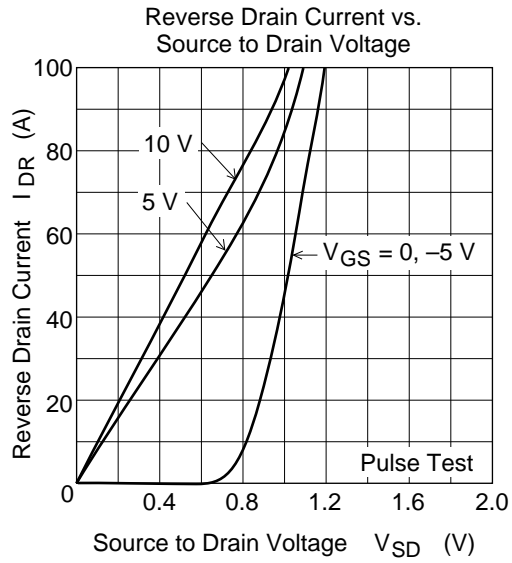
Note: 3. Pulse test

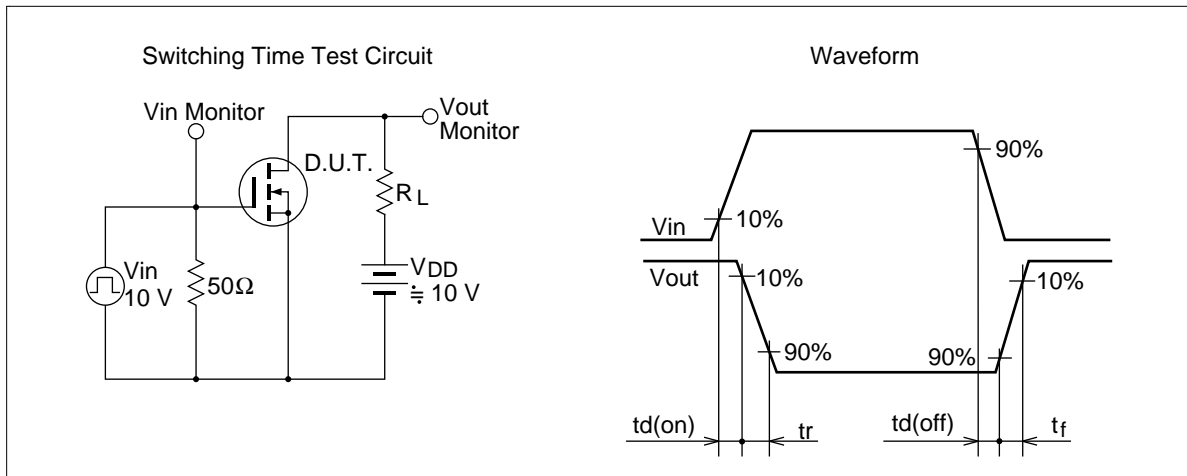
Main Characteristics





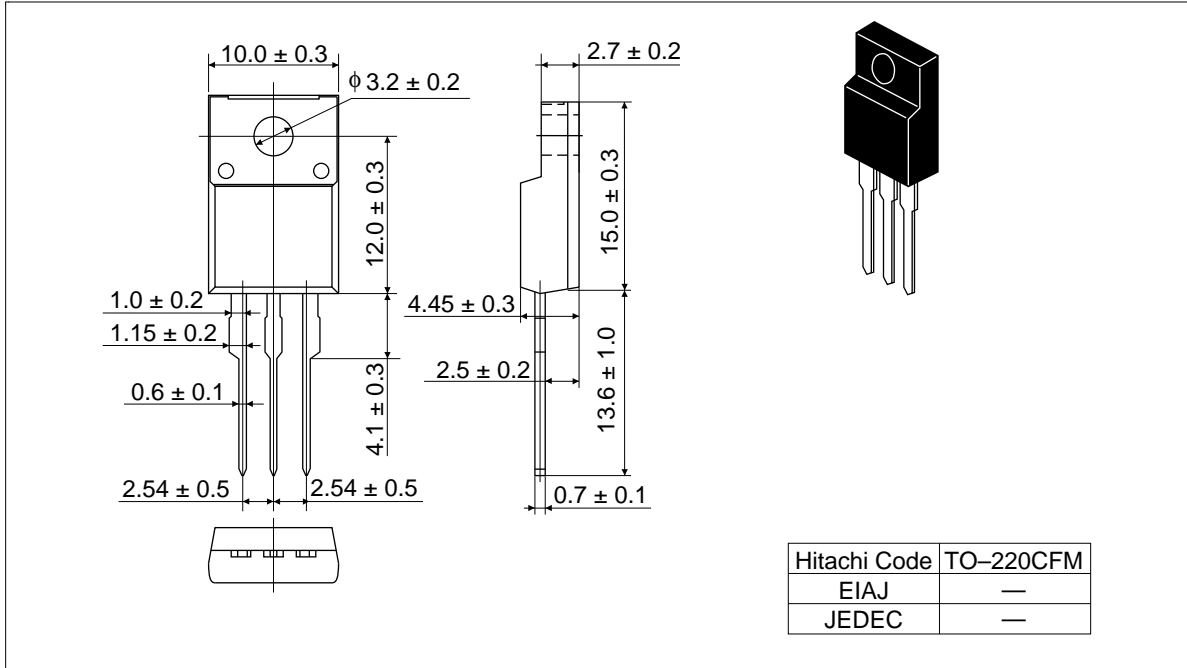






# 2SK2737

## Package Dimensions (Unit: mm)





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