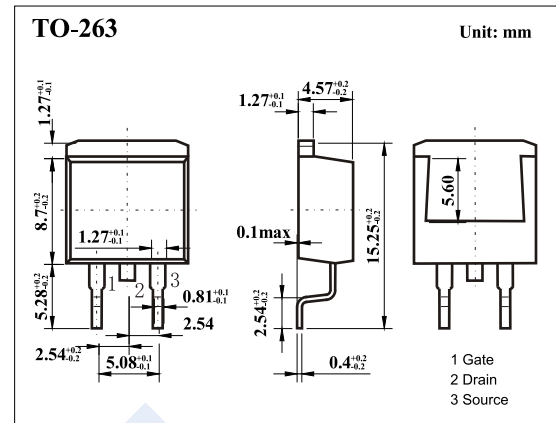
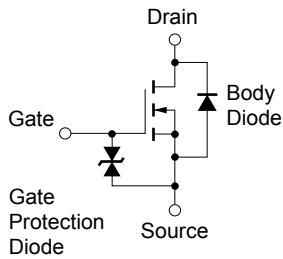


## N-Channel MOSFET

### 2SK3434-ZJ

#### ■ Features

- $V_{DS} = 60V$
- $I_D = 48A$  ( $V_{GS} = 10V$ )
- $R_{DS(ON)} < 20m\Omega$  ( $V_{GS} = 10V$ )
- $R_{DS(ON)} < 31m\Omega$  ( $V_{GS} = 4V$ )
- Low Ciss: Ciss = 2100 pF TYP.



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	$V_{DS}$	60	V	
Gate-Source Voltage	$V_{GS}$	$\pm 20$		
Continuous Drain Current	$I_D$	48	A	
Pulsed Drain Current (Note.1)	$I_{DM}$	192		
Single Avalanche Current (Note.2)	$I_{AS}$	28		
Power Dissipation	$P_D$	$T_c = 25^\circ C$	56	W
		$T_a = 25^\circ C$	1.5	
Single Avalanche Energy (Note.2)	$E_{AS}$	78	mJ	
Thermal Resistance.Junction- to-Ambient	$R_{thJA}$	83.3	$^\circ C/W$	
Thermal Resistance.Junction- to-Case	$R_{thJC}$	2.23		
Junction Temperature	$T_J$	150	$^\circ C$	
Storage Temperature Range	$T_{stg}$	-55 to 150		

Note.1:  $PW \leq 10 \mu s$ , Duty Cycle  $\leq 1\%$

Note.2: Starting  $T_J = 25^\circ C$ ,  $V_{DD} = 150V$ ,  $R_G = 25\Omega$ ,  $V_{GS} = 20V \rightarrow 0V$

## N-Channel MOSFET

### 2SK3434-ZJ

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V <sub>DSS</sub>	I <sub>D</sub> =250 μA, V <sub>GS</sub> =0V	60			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, V <sub>GS</sub> =0V			10	μA
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V			±10	μA
Gate to Source Cut-off Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	1.5		2.5	V
Static Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =24A			20	mΩ
		V <sub>GS</sub> =4V, I <sub>D</sub> =24A			31	
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =24A	13	27		S
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =10V, f=1MHz		2100		pF
Output Capacitance	C <sub>oss</sub>			340		
Reverse Transfer Capacitance	C <sub>rss</sub>			170		
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> =10V, V <sub>DS</sub> =48V, I <sub>D</sub> =48A		40		nC
Gate Source Charge	Q <sub>gs</sub>			7		
Gate Drain Charge	Q <sub>gd</sub>			11		
Turn-On DelayTime	t <sub>d(on)</sub>			40		
Turn-On Rise Time	t <sub>r</sub>	V <sub>DD</sub> = 30V, I <sub>D</sub> = 24A, V <sub>GS(on)</sub> =10V, R <sub>G</sub> = 10 Ω		400		ns
Turn-Off DelayTime	t <sub>d(off)</sub>			120		
Turn-Off Fall Time	t <sub>f</sub>			160		
Body Diode Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 48A, V <sub>GS</sub> =0, di/dt= 100A/μs		43		nC
Body Diode Reverse Recovery Charge	Q <sub>rr</sub>			61		
Diode Forward Voltage	V <sub>SD</sub>	I <sub>F</sub> =48A, V <sub>GS</sub> =0V		1		V