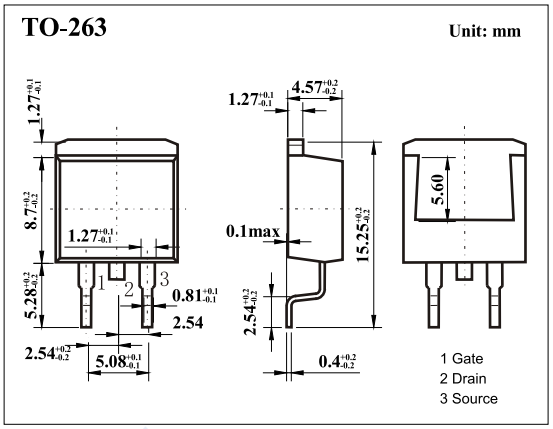
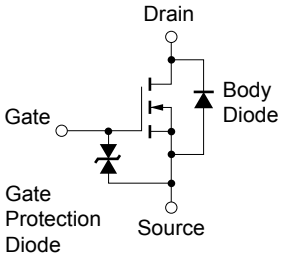
N-Channel MOSFET
2SK3430-ZJ



■ Features

- V_{DSS} = 40V
- I_D = 80 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 7.3mΩ (V_{GS} = 10V)
- $R_{DS(ON)}$ < 15mΩ (V_{GS} = 4V)
- Low Ciss: Ciss = 2800 pF TYP.



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Voltage	V_{GS}	±20	
Continuous Drain Current	I_D	80	A
Pulsed Drain Current (Note.1)	I_{DM}	200	
Single Avalanche Current (Note.2)	I_{AS}	37	
Power Dissipation Tc = 25℃	P_D	84	W
Power Dissipation Ta = 25℃		1.5	
Single Avalanche Energy (Note.2)	E_{AS}	137	mJ
Thermal Resistance.Junction- to-Ambient	R_{thJA}	83.3	℃/W
Thermal Resistance.Junction- to-Case	R_{thJC}	1.49	
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: PW ≤ 10 us, Duty Cycle ≤ 1 %

Note.2: Starting T_J = 25 °C, V_{DD} = 150 V, R_G = 25 Ω, V_{GS} = 20 V → 0 V

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	40			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V, V_{GS}=0V			10	uA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±10	uA
Gate to Source Cut-off Voltage	$V_{GS(off)}$	V_{DS}=10V , I_D=1mA	1.5		2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=40A			7.3	mΩ
		V_{GS}=4V, I_D=40A			15	
Forward Transconductance	g_{FS}	V_{DS}=10V, I_D=40A	20	40		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=10V, f=1MHz		2800		pF
Output Capacitance	C_{oss}			730		
Reverse Transfer Capacitance	C_{rss}			320		
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=32V, I_D=80A		50		nC
Gate Source Charge	Q_{gs}			10		
Gate Drain Charge	Q_{gd}			14		
Turn-On DelayTime	$t_{d(on)}$	V_{DD} = 20V, I_D = 40A, $V_{GS(on)}$=10V, R_G = 10 Ω		110		ns
Turn-On Rise Time	t_r			1800		
Turn-Off DelayTime	$t_{d(off)}$			170		
Turn-Off Fall Time	t_f			350		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 80A, V_{GS}=0, dI/dt= 100A/μs		50		
Body Diode Reverse Recovery Charge	Q_{rr}			77		nC
Diode Forward Voltage	V_{SD}	I_F=80A,V_{GS}=0V		1		V