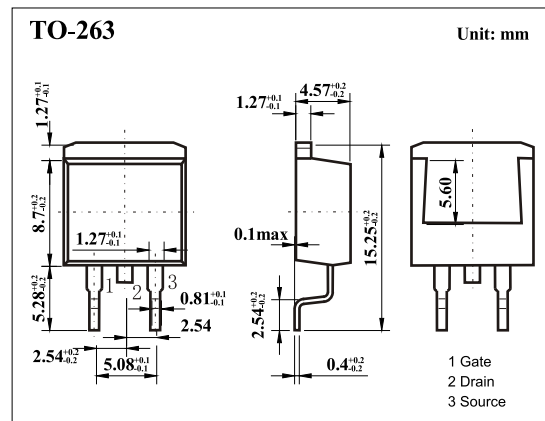
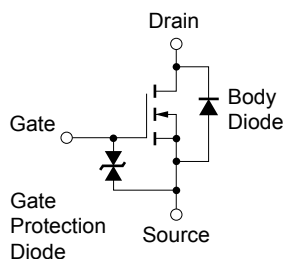


N-Channel MOSFET

2SK3430-ZJ

■ Features

- $V_{DS} = 40V$
- $I_D = 80 A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 7.3m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 15m\Omega$ ($V_{GS} = 4V$)
- Low C_{iss} : $C_{iss} = 2800 pF$ TYP.



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

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 $T_c = 25^\circ C$ $T_a = 25^\circ C$	P_D	84	W
		1.5	
Single Avalanche Energy (Note.2)	E_{AS}	137	mJ
Thermal Resistance.Junction- to-Ambient	R_{thJA}	83.3	$^\circ C/W$
Thermal Resistance.Junction- to-Case	R_{thJC}	1.49	
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 $T_J = 25^\circ C$, $V_{DD} = 150 V$, $R_G = 25 \Omega$, $V_{GS} = 20 V \rightarrow 0 V$

N-Channel MOSFET

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D=250\mu A$, $V_{GS}=0V$	40			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=40V$, $V_{GS}=0V$			10	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0V$, $V_{GS}=\pm 20V$			± 10	μA
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	$m\Omega$
		$V_{GS}=4V$, $I_D=40A$			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	$t_{d(on)}$	$V_{DD}=20V$, $I_D=40A$, $V_{GS(on)}=10V$, $R_G=10\Omega$		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}	$I_F=80A$, $V_{GS}=0$, $dI/dt=100A/\mu s$		50		nC
Body Diode Reverse Recovery Charge	Q_{rr}			77		
Diode Forward Voltage	V_{SD}	$I_F=80A$, $V_{GS}=0V$		1		V