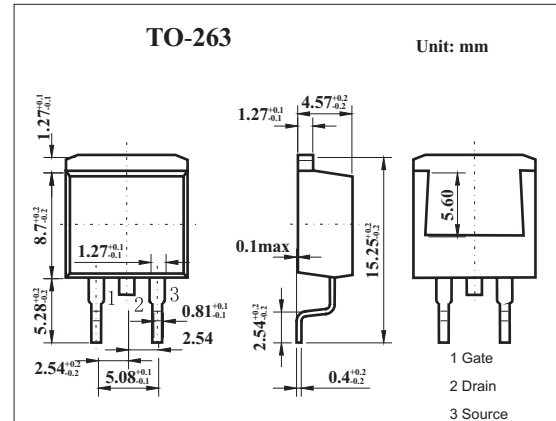


MOS Field Effect Transistor 2SK3433

■ Features

- Super low on-state resistance:
 $R_{DS(on)1} = 26\text{m}\Omega$ MAX. ($V_{GS} = 10\text{V}$, $I_D = 42\text{A}$)
 $R_{DS(on)2} = 41\text{m}\Omega$ MAX. ($V_{GS} = 4\text{V}$, $I_D = 42\text{A}$)
- Low C_{iss} : $C_{iss} = 1500\text{pF}$ TYP.
- Built-in gate protection diode



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

Parameter	Symbol	Rating	Unit	
Drain to source voltage	V_{DS}	60	V	
Gate to source voltage	V_{GS}	± 20	V	
Drain current	I_D	± 40	A	
	I_{dp}^*	± 160	A	
Power dissipation	P_D	$T_c=25^\circ\text{C}$	47	W
		$T_A=25^\circ\text{C}$	1.5	
Channel temperature	T_{ch}	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	

* $PW \leq 10\mu\text{s}$, Duty Cycle $\leq 1\%$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain cut-off current	I_{BSS}	$V_{DS}=60\text{V}, V_{GS}=0$			10	μA
Gate leakage current	I_{GSS}	$V_{GS} = \pm 20\text{V}, V_{DS}=0$			± 10	μA
Gate cutoff voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}, I_D=1\text{mA}$	1.5	2.0	2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}, I_D=20\text{A}$	11	22		S
Drain to source on-state resistance	$R_{DS(on)1}$	$V_{GS}=10\text{V}, I_D=20\text{A}$		22	26	$\text{m}\Omega$
	$R_{DS(on)2}$	$V_{GS}=4\text{V}, I_D=20\text{A}$		29	41	$\text{m}\Omega$
Input capacitance	C_{iss}	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$		1500		pF
Output capacitance	C_{oss}			250		pF
Reverse transfer capacitance	C_{rss}			120		pF
Turn-on delay time	t_{on}	$I_D=20\text{A}, V_{GS(on)}=10\text{V}, R_G=10\Omega, V_{DD}=30\text{V}$		35		ns
Rise time	t_r			320		ns
Turn-off delay time	t_{off}			89		ns
Fall time	t_f			120		ns
Total Gate Charge	Q_G	$I_D=40\text{A}, V_{DD}=48\text{V}, V_{GS}=10\text{V}$		30		nC
Gate to Source Charge	Q_{GS}			5		nC
Gate to Drain Charge	Q_{GD}			8		nC