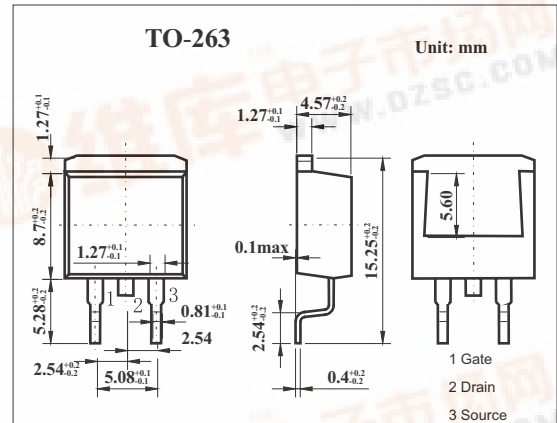


SMD Type MOSFET

MOS Field Effect Transistor
2SK3405

Features

- 4.5-V drive available
- Low on-state resistance
 $R_{DS(on)1} = 9.0m\ \Omega$ MAX. ($V_{GS} = 10\ V, I_D = 24\ A$)
- Low gate charge
 $Q_G = 34\ nC$ TYP. ($I_D = 48\ A, V_{DD} = 16V, V_{GS} = 10\ V$)
- Built-in gate protection diode
- Surface mount device available



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DS}	20	V
Gate to source voltage	V_{GS}	± 20	V
Drain current	I_D	± 48	A
	I_{DP}^*	± 192	A
Power dissipation	P_D	$T_C=25^\circ C$	50
		$T_A=25^\circ C$	1.5
Channel temperature	T_{ch}	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

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

Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain cut-off current	I_{DSS}	$V_{DS}=20V, V_{GS}=0$			10	μA
Gate leakage current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0$			± 10	μA
Gate cutoff voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.5		2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10V, I_D=24A$	12.5			S
Drain to source on-state resistance	$R_{DS(on)1}$	$V_{GS}=10V, I_D=24A$		6.5	9.0	$m\ \Omega$
	$R_{DS(on)2}$	$V_{GS}=4.5V, I_D=24A$		9.9	14.0	$m\ \Omega$
Input capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$		1800		pF
Output capacitance	C_{oss}		770		pF	
Reverse transfer capacitance	C_{rss}		400		pF	
Turn-on delay time	t_{on}		21		ns	
Rise time	t_r	$I_D=24A, V_{GS(on)}=10V, R_G=10\ \Omega, V_{DD}=10V$		13		ns
Turn-off delay time	t_{off}		64		ns	
Fall time	t_f		25		ns	
Total Gate Charge	Q_G		34		nC	
Gate to Source Charge	Q_{GS}	$I_D=48A, V_{DD} = 16\ V, V_{GS} = 10\ V$		6.6		nC
Gate to Drain Charge	Q_{GD}			11		nC

