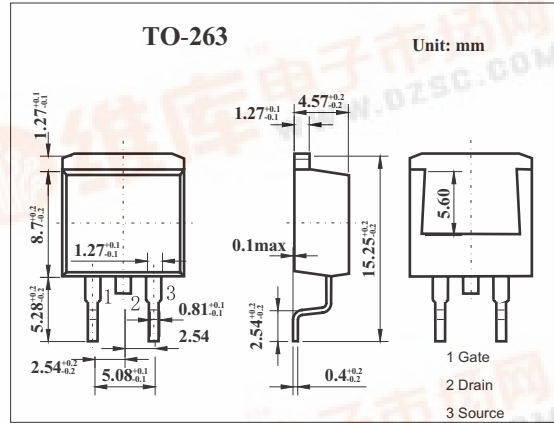


SMD Type MOSFET

MOS Field Effect Transistor 2SK3574

Features

- 4.5V drive available.
- Low on-state resistance,  $R_{DS(on)1} = 13.5m\ \Omega$  MAX. ( $V_{GS} = 10\ V, I_D = 24A$ )
- Low gate charge  $Q_G = 22nC$  TYP. ( $V_{DD} = 24\ V, V_{GS} = 10\ V, I_D = 48\ A$ )
- 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	$V_{DSS}$	30	V	
Gate to source voltage	$V_{GSS}$	$\pm 20$	V	
Drain current	$I_D$	$\pm 48$	A	
	$I_{DP}^*$	$\pm 140$	A	
Power dissipation	$P_D$	$T_c=25^\circ C$	29	W
		$T_A=25^\circ C$	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	$I_{DSS}$	$V_{DS}=30V, V_{GS}=0$			10	$\mu A$
Gate leakage current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS}=0$			$\pm 10$	$\mu A$
Gate cut off voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.5		2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10V, I_D=42A$	7.0			S
Drain to source on-state resistance	$R_{DS(on)1}$	$V_{GS}=10V, I_D=42A$		10.1	13.5	$m\ \Omega$
	$R_{DS(on)2}$	$V_{GS}=4.5V, I_D=15A$		15	24	$m\ \Omega$
Input capacitance	$C_{iss}$	$V_{DS}=10V, V_{GS}=0, f=1MHZ$		940		pF
Output capacitance	$C_{oss}$		245		pF	
Reverse transfer capacitance	$C_{rss}$		170		pF	
Turn-on delay time	$t_{on}$		12		ns	
Rise time	$t_r$	$I_D=24A, V_{GS(on)}=10V, R_G=10\ \Omega, V_{DD}=15V$		18		ns
Turn-off delay time	$t_{off}$		39		ns	
Fall time	$t_f$		12		ns	
Total Gate Charge	$Q_G$	$V_{DD} = 24V$ $V_{GS} = 10\ V$ $I_D = 48\ A$		22		nC
Gate to Source Charge	$Q_{GS}$		3.8		nC	
Gate to Drain Charge	$Q_{GD}$		7		nC	

