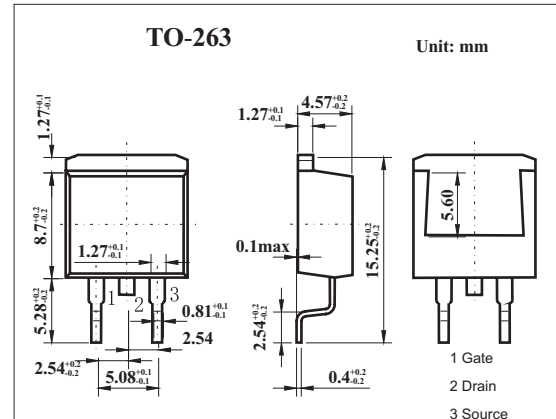


MOS Field Effect Transistor

2SK3456

■ Features

- Low gate charge
 $Q_G = 30 \text{ nC TYP.}$ ($V_{DD} = 400 \text{ V}$, $V_{GS} = 10 \text{ V}$, $I_D = 12 \text{ A}$)
- Gate voltage rating $\pm 30 \text{ V}$
- Low on-state resistance
 $R_{DS(on)} = 0.60 \Omega \text{ MAX.}$ ($V_{GS} = 10 \text{ V}$, $I_D = 6.0 \text{ A}$)
- Avalanche capability ratings
- Surface mount package available



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DS}	500	V
Gate to source voltage	V_{GS}	± 30	V
Drain current	I_D	± 12	A
	I_{dp}^*	± 36	A
Power dissipation	P_D	100	W
		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_{DSS}	$V_{DS}=500\text{V}, V_{GS}=0$			10	μA
Gate leakage current	I_{GSS}	$V_{GS}=\pm 30\text{V}, V_{DS}=0$			± 100	μA
Gate cutoff voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}, I_D=1\text{mA}$	2.5		3.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}, I_D=6.0\text{A}$	2.0			S
Drain to source on-state resistance	$R_{DS(on)1}$	$V_{GS}=10\text{V}, I_D=6.0\text{A}$		0.48	0.60	Ω
Input capacitance	C_{iss}	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$		1620		pF
Output capacitance	C_{oss}			250		pF
Reverse transfer capacitance	C_{rss}			10		pF
Turn-on delay time	t_{on}	$I_D=6.0\text{A}, V_{GS(on)}=10\text{V}, R_G=10 \Omega, V_{DD}=150\text{V}$		24		ns
Rise time	t_r			18		ns
Turn-off delay time	t_{off}			50		ns
Fall time	t_f	$I_D=12\text{A}, V_{DD}=400\text{V}, V_{GS}=10\text{V}$		15		ns
Total Gate Charge	Q_G			30		nC
Gate to Source Charge	Q_{GS}			9		nC
Gate to Drain Charge	Q_{GD}			11		nC