

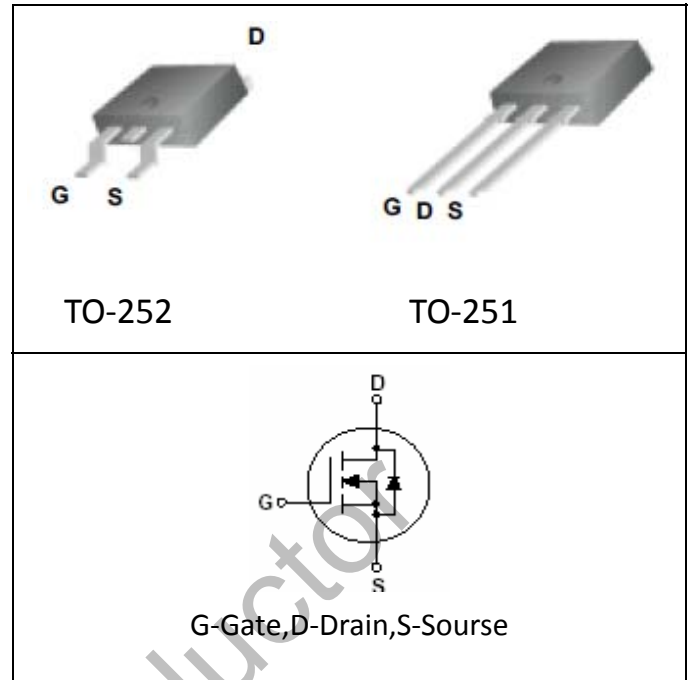
Applications:

- Power Supply
- DC-DC Converters

Features:

- Low $R_{DS(on)}$ to Minimize Conduction Losses
- Low Gate charge for fast switching application
- Optimized BVDSS capability

V_{DSS}	$R_{DS(ON)}(MAX)$	I_D
60 V	18 mΩ	50A



Absolute Maximum Ratings $T_c=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{DSS}	Drain-to-Source Voltage	60	V
I_D	Continuous Drain Current ($T_c=25^\circ\text{C}$)	50	A
E_{AS}	Single Pulse Avalanche Energy ($L=11.9\text{mH}$)	225	mJ
T_J and T_{STG}	Operating Junction and Storage Temperature Range	-55 to 175	$^\circ\text{C}$

*Calculated continuous current based upon maximum allowable junction temperature, $+175^\circ\text{C}$.

OFF Characteristics $T_J=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Min	Typ	Max	Units	Test Conditions
B_{VDSS}	Drain-to-Source Breakdown Voltage	60	68		V	$V_{GS}=0V, I_D=250\mu A$
I_{DSS}	Drain-to-Source Leakage Current			1	μA	$V_{DS}=48V, V_{GS}=0V$
				100		$V_{DS}=48V, V_{GS}=0V, T_J=125^\circ\text{C}$
I_{GSS}	Gate-to-Source Forward Leakage			100	nA	$V_{GS}=+20V$
	Gate-to-Source Reverse Leakage			100		$V_{GS}=-20V$

ON Characteristics $T_J=25^{\circ}\text{C}$ unless otherwise specified

Symbol	Parameter	Min	Typ	Max	Units	Test Conditions
$R_{DS(ON)}$	Static Drain-to-Source On-Resistance		12.5	18	m Ω	$V_{GS}=10\text{V}$, $I_D=25\text{A}$
$V_{GS(TH)}$	Gate Threshold Voltage.	2.5	3.0	4.5	V	$V_{DS}=V_{GS}$, $I_D=250\mu\text{A}$

Dynamic Characteristics Essentially independent of operating temperature

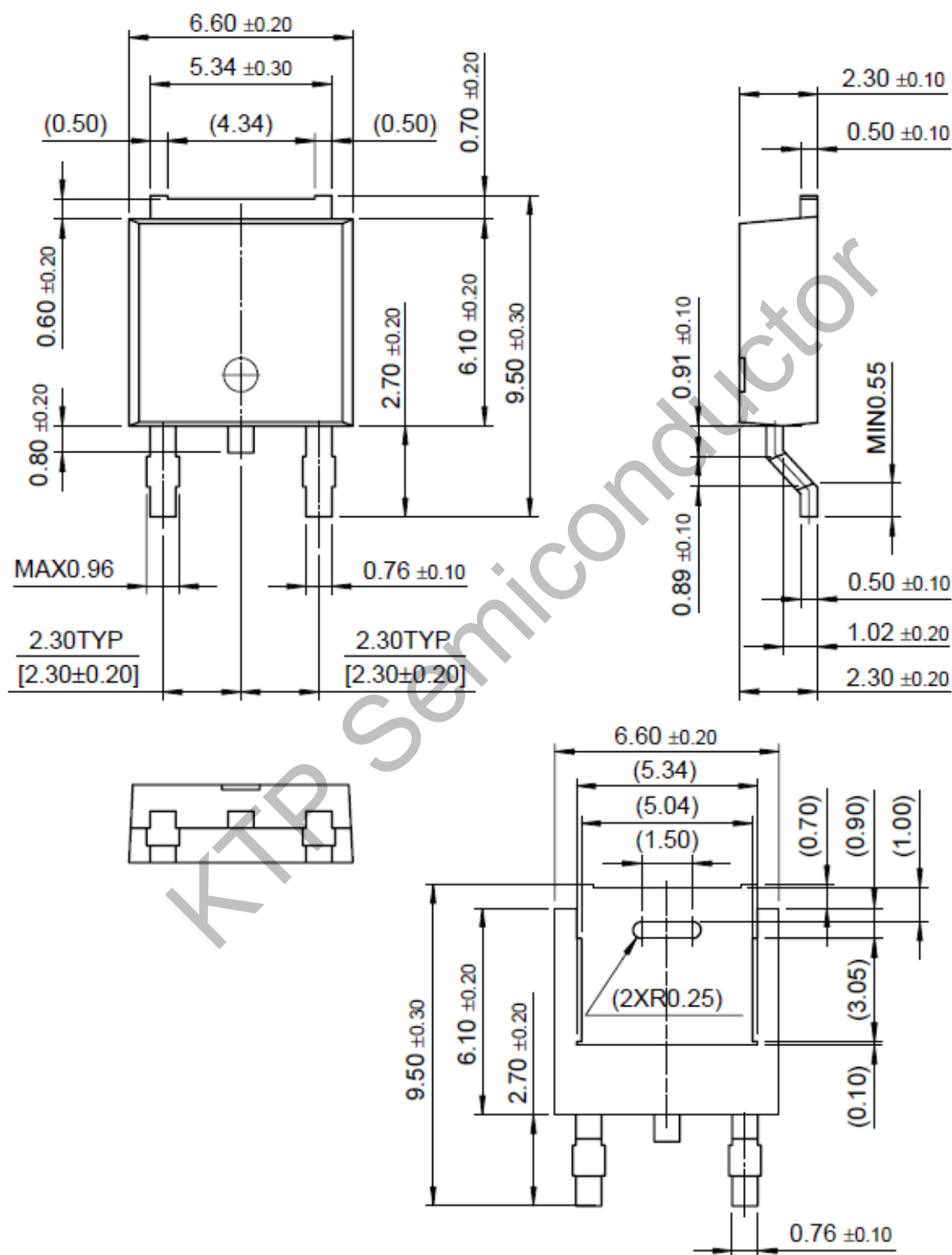
Symbol	Parameter	Min	Typ	Max	Units	Test Conditions
C_{iss}	Input Capacitance		1008		pF	$V_{GS}=0\text{V}$, $V_{DS}=30\text{V}$, $f=1.0\text{MHz}$
C_{oss}	Output Capacitance		158			
C_{rss}	Reverse Transfer Capacitance		67			
Q_g	Total Gate Charge		20.0		nC	$V_{DD}=30\text{V}$, $I_D=60\text{A}$, $V_{GS}=10\text{V}$
Q_{gs}	Gate-to-Source Charge		13.4			
Q_{gd}	Gate-to-Drain ("Miller") Charge		6.0			
$T_{d(on)}$	Turn-in Delay Time		8.7		nS	$V_{DD}=30\text{V}$, $R_L=0.5\text{ Ohm}$, $I_D=60\text{A}$, $V_{GEN}=10\text{V}$, $R_G=2.5\text{ Ohm}$
T_r	Rise Time		45.1			
$T_{d(off)}$	Turn-off Delay Time		25.6			
T_f	Fall Time		6.8			

Source-Drain Diode Characteristics $T_c=25^{\circ}\text{C}$ unless otherwise specified

Symbol	Parameter	Min	Typ	Max	Units	Test Conditions
V_{SD}	Diode Forward Voltage			1.2	V	$I_S=60\text{A}$, $V_{GS}=0\text{V}$

Package Dimension

TO-252



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TO-251

