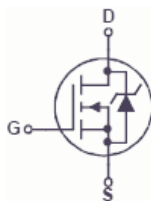
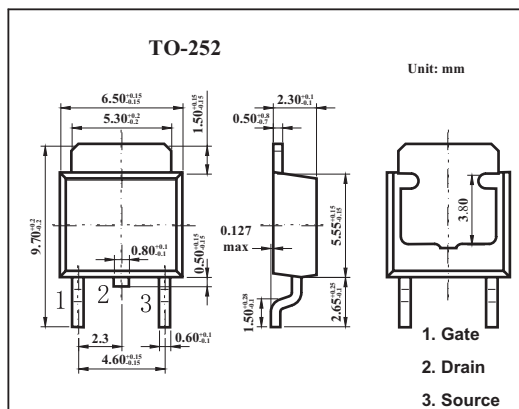


■ Features

- $r_{DS(ON)} = 45m\Omega$  (Typ.),  $V_{GS} = 10V$ ,  $I_D = 9A$
- $Q_{g(tot)} = 26nC$  (Typ.),  $V_{GS} = 10V$
- Low Miller Charge
- Low  $Q_{RR}$  Body Diode
- UIS Capability (Single Pulse and Repetitive Pulse)
- Qualified to AEC Q101



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

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	$V_{DSS}$	150	V
Gate to Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current Continuous ( $T_c = 25^\circ C$ , $V_{GS} = 10V$ )	$I_D$	29	A
Drain Current Continuous ( $T_c = 100^\circ C$ , $V_{GS} = 10V$ )		20	A
Drain Current Continuous ( $T_c = 100^\circ C$ , $V_{GS} = 10V$ , $R_{\theta JA} = 52^\circ C/W$ )		4	A
Single Pulse Avalanche Energy *	$E_{AS}$	36	mJ
Power dissipation	$P_D$	135	W
Derate above $25^\circ C$	$P_D$	0.9	W/ $^\circ C$
Operating and Storage Temperature	$T_J, T_{STG}$	-55 to 175	$^\circ C$
Thermal Resistance Junction to Case	$R_{\theta JC}$	1.11	$^\circ C/W$
Thermal Resistance Junction to Ambient to252	$R_{\theta JA}$	100	$^\circ C/W$
Thermal Resistance Junction to Ambient to252, 1in <sup>2</sup> copper pad area	$R_{\theta JA}$	52	$^\circ C/W$

\* Starting  $T_J = 25^\circ C$ ,  $L = 0.2$  mH,  $I_{AS} = 19A$ .

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain to Source Breakdown Voltage	BVDSS	Id = 250 μ A, VGS = 0V	150			V
Zero Gate Voltage Drain Current	IDSS	VDS = 120V, VGS = 0V			1	μ A
		VDS = 120V, VGS = 0V, Tc = 150°C			250	
Gate to Source Leakage Current	IGSS	VGS = ±20V			±100	nA
Gate Threshold Voltage	VGS(th)	VDS = VGS, Id = 250 μ A	2		4	V
Drain to Source On-Resistance	rDS(ON)	Id = 9A, VGS = 10V		0.045	0.054	Ω
		Id = 4A, VGS = 6V,		0.05	0.075	
		Id = 9A, VGS = 10V, Tc = 175°C		0.126	0.146	
Input Capacitance	Ciss	VDS = 25V, VGS = 0V, f = 1MHz		1770		pF
Output Capacitance	COSS			183		pF
Reverse Transfer Capacitance	CRSS			40		pF
Total Gate Charge at 10V	Qg(TOT)	VGS = 0V to 10V, VDD = 75V, Id = 9A, Ig = 1.0mA		26	34	nC
Threshold Gate Charge	Qg(TH)	VGS = 0V to 2V, VDD = 75V, Id = 9A, Ig = 1.0mA		3.3	4.3	nC
Gate to Source Gate Charge	Qgs	VDD = 75V, Id = 9A, Ig = 1.0mA		8		nC
Gate Charge Threshold to Plateau	Qgs2			5		nC
Gate to Drain "Miller" Charge	Qgd			6		nC
Turn-On Time	tON	VDD = 75V, Id = 33A, VGS = 10V, RGS = 11 Ω			36	ns
Turn-On Delay Time	td(ON)			11		ns
Rise Time	tr			14		ns
Turn-Off Delay Time	td(OFF)			31		ns
Fall Time	tf			14		ns
Turn-Off Time	tOFF				66	ns
Source to Drain Diode Voltage	VSD	ISD = 9A			1.25	V
		ISD = 4A			1.0	V
Reverse Recovery Time	trr	ISD = 9A, disD/dt = 100A/μ s			74	ns
Reverse Recovery Charge	QRR	ISD = 9A, disD/dt = 100A/μ s			169	nC