

MOS Field Effect Transistor

2SJ607

Features

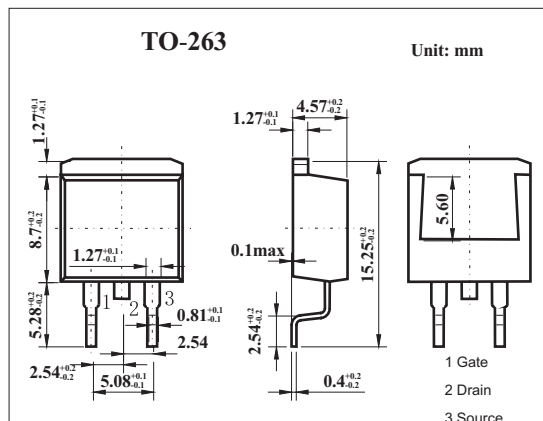
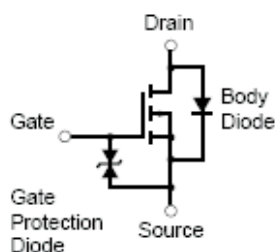
- Low on-resistance

$R_{DS(on)1} = 11 \text{ m}\Omega \text{ MAX. (} V_{GS} = -10 \text{ V, } I_D = -42 \text{ A)}$

$R_{DS(on)2} = 16 \text{ m}\Omega \text{ MAX. (} V_{GS} = -4.0 \text{ V, } I_D = -42 \text{ A)}$

- Low C_{iss} : $C_{iss} = 7500 \text{ pF TYP.}$

- Built-in gate protection diode



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DS}	-60	V
Gate to source voltage	V_{GS}	± 20	V
Drain current (DC)	I_D	± 83	A
Drain current(pulse) *	I_D	± 332	A
Power dissipation	$T_C=25^\circ\text{C}$	P_D	160
	$T_A=25^\circ\text{C}$	P_D	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 $\leq 1\%$

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain cut-off current	I_{DSS}	$V_{DS}=-60V, V_{GS}=0$			-10	μA
Gate leakage current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0$			± 10	μA
Gate to source cutoff voltage	$V_{GS(off)}$	$V_{DS}=-10V, I_D=-1mA$	-1.5	-2.0	-2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=-10V, I_D=-42A$	45	90		S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-42A$		9.1	11	$m\Omega$
		$V_{GS}=-4.0V, I_D=-42A$		11	16	$m\Omega$
Input capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0, f=1MHz$		7500		pF
Output capacitance	C_{oss}			1800		pF
Reverse transfer capacitance	C_{rss}			430		pF
Turn-on delay time	$t_{d(on)}$	$V_{GS(on)}=-30V, I_D=-42A, V_{DD}=-10V, R_G=0\Omega$		23		ns
Rise time	t_r			16		ns
Turn-off delay time	$t_{d(off)}$			340		ns
Fall time	t_f			160		ns
Total Gate Charge	Q_G	$I_D = -83A$		188		nC
Gate to Source Charge	Q_{GS}	$V_{DD} = -48V$		30		nC
Gate to Drain Charge	Q_{GD}	$V_{GS} = -10V$		48		nC
Body Diode Forward Voltage	$V_{F(S-D)}$	$I_F = 83A, V_{GS} = 0V$		1.0		V
Reverse Recovery Time	t_{rr}	$I_F = 83A, V_{GS} = 0V$		64		ns
Reverse Recovery Charge	Q_{rr}	$di/dt = 100A/\mu s$		150		nC