

TO-220 N MOS N-CHANNEL MOSFET in a TO-220 Plastic Package.

dv/dt

Low gate charge, Fast switching capability, Avalan

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	400	V
Drain Current	$I_D(T_c=25)$	20	A
Drain Current	$I_D(T_c=100)$	13	A
Drain Current - Pulsed	I_{DP}	80	A
Gate-Source Voltage	V_{GSS}	± 20	V
Single Pulsed Avalanche Energy	E_{AR}	28	mJ
Repetitive Avalanche Energy	E_{AS}	1110	mJ
Peak Diode Recovery dv/dt	dv/dt	4.5	V/ns
Power Dissipation	$P_D(T_c=25)$	280	W
Junction Temperature Range	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	
Thermal Resistance Junction-Ambient	R_{thJA}	40	/W
Thermal Resistance Junction-Case	R_{thJC}	0.44	/W

/ Electrical Characteristics(Ta=25)

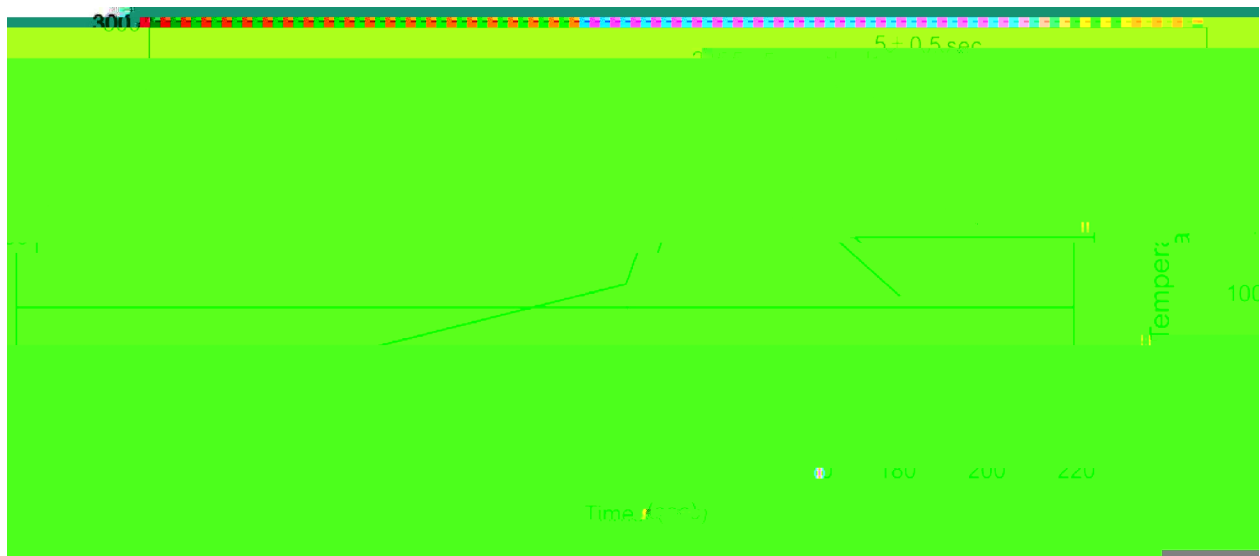
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	400			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=400V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=400V$ $T_C=125$			10	
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=10A$		0.23	0.40	Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=20A$			1.5	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		2700		pF
Output Capacitance	C_{oss}			400		
Reverse Transfer Capacitance	C_{rss}			40		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=250V$ $I_D=20A$ $R_G=2.5\Omega$		100		ns
Turn-On Rise Time	t_r			400		
Turn-Off Delay Time	$t_{d(off)}$			100		
Turn-Off Fall Time	t_f			100		
Total Gate Charge	Q_g	$V_{DS}=400V$ $I_D=20A$ $V_{GS}=10V$		70		nC
Gate-Source Charge	Q_{gs}			18		
Gate-Drain Charge	Q_{gd}			35		

/ Electrical Characteristic Curve



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() / Temperature Profile for Dip Soldering(Pb-Free)



Note: