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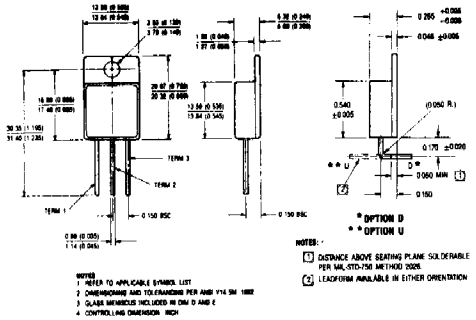
IRFM254

ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
	STATIC ELECTRICAL RATINGS						
BV_{DSS}	Drain – Source Breakdown Voltage	V_{GS} = 0	I_D = 250µA	250			V
ΔBV_{DSS} / ΔT_J	Temperature Coefficient of Breakdown Voltage	Reference to 25°C, I_D = 1mA			0.39		V/°C
$R_{DS(on)}$	Static Drain – Source On–State Resistance [2]	V_{GS} = 10V	I_D = 14A			0.14	Ω
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}	I_D = 250µA	2		4	V
g_{fs}	Forward Transconductance [2]	V_{DS} ≥ 50V	I_{DS} = 14A	11			S(℧)
I_{DSS}	Drain to Source Leakage Current	V_{GS} = 0	V_{DS} = 250V			25	µA
		V_{DS} = 200V	T_J = 125°C			250	
I_{GSS}	Forward Gate – Source Leakage	V_{GS} = 20V				100	nA
I_{GSS}	Reverse Gate – Source Leakage	V_{GS} = –20V				–100	
	DYNAMIC CHARACTERISTICS						
C_{iss}	Input Capacitance	V_{GS} = 0			2700		pF
C_{oss}	Output Capacitance	V_{DS} = 25V			620		
C_{rss}	Reverse Transfer Capacitance	f = 1MHz			180		
Q_g	Total Gate Charge	V_{GS} = 10V				140	nC
Q_{gs}	Gate – Source Charge	I_D = 23A				24	
Q_{gd}	Gate – Drain ("Miller") Charge	V_{DS} = 200V				71	
$t_{d(on)}$	Turn–On Delay Time	V_{DD} = 125V			15		ns
t_r	Rise Time	I_D = 23A			63		
$t_{d(off)}$	Turn–Off Delay Time	R_G = 6.2Ω			74		
t_f	Fall Time	R_D = 5.4Ω			50		
	SOURCE – DRAIN DIODE CHARACTERISTICS						
I_S	Continuous Source Current					23	A
I_{SM}	Pulse Source Current [1]					92	
V_{SD}	Diode Forward Voltage [2]	I_S = 23A	T_J = 25°C			1.8	V
t_{rr}	Reverse Recovery Time [2]	V_{GS} = 0			370	560	ns
Q_{rr}	Reverse Recovery Charge [2]	I_F = 23A	T_J = 25°C		4.6	6.9	µC
t_{on}	Forward Turn–On Time	$d_i / d_t \leq$ 100A/µs	V_{DD} ≤ 50V		Negligible		

Notes

1) Repetitive Rating – Pulse width limited by Maximum Junction Temperature
2) Pulse Test: Pulse Width ≤ 300µs, δ ≤ 2%.



Conforms to JEDEC Outline TO-254AA

Quality Semi-Conductors