

ELECTRICAL CHARACTERISTICS at $T_A = +25^\circ\text{C}$, $V_{CC} = 20\text{ V}$, voltage measurements are referenced to S/GND terminal (unless otherwise specified).

Characteristic	Symbol	Test Conditions	Limits			
			Min.	Typ.	Max.	Units
Start-Up Operation						
Operation Start Voltage	$V_{CC(ON)}$	Turn-on, $V_{CC} = 0 \rightarrow 19.9\text{ V}$	16.3	18.2	19.9	V
Soft-Start Operation Stop Voltage	$V_{SS/OLP}$		1.1	1.2	1.4	V
Soft-Start Oper. Charging Current	$I_{SS/OLP}$		-390	-550	-710	μA
Operation Stop Voltage	$V_{CC(OFF)}$	Turn-off, $V_{CC} = 19.9 \rightarrow 8.8\text{ V}$	8.8	9.7	10.6	V
Circuit Current in Non-Operation	$I_{CC(OFF)}$	$V_{CC} = 15\text{ V}$	–	–	100	μA
Normal Operation						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 300\ \mu\text{A}$	650	–	–	V
Drain Leakage Current	I_{DSS}	$V_{DS} = 650\text{ V}$	–	–	300	μA
On-State Resistance	$r_{DS(on)}$	$I_D = 1.9\text{ A}$, $T_J = +25^\circ\text{C}$	–	–	0.96	Ω
Switching Time	t_f		–	–	400	ns
Circuit Current	$I_{CC(ON)}$		–	–	6.0	mA
Oscillation Frequency	f_{osc}		19	22	25	kHz
Bottom-Skip Oper. Threshold Volt.	$V_{OCPBD(BS1)}$		-605	-665	-720	mV
	$V_{OCPBD(BS2)}$		-385	-435	-485	mV
Quasi-Resonant Oper. Threshold	$V_{OCPBD(TH1)}$		280	400	520	mV
	$V_{OCPBD(TH2)}$		670	800	930	mV
Feedback-Pin Threshold Voltage	$V_{FB(OFF)}$		1.32	1.45	1.58	V
Feedback-Pin Current	$I_{FB(ON)}$		600	1000	1400	μA
Standby Operation						
Standby Operation Start Voltage	$V_{CC(S)}$	$V_{CC} = 0 \rightarrow 12.2\text{ V}$	10.3	11.1	12.1	V
Standby Oper. Start Volt. Interval	V_{CC}		1.10	1.35	1.65	V
Standby Non-Operation Current	$I_{CC(S)}$	$V_{CC} = 10.2\text{ V}$	–	20	56	μA
Feedback-Pin Current	$I_{FB(ON)}$	$V_{CC} = 10.2\text{ V}$	–	4.0	14	μA
Feedback-Pin Threshold Voltage	$V_{FB(S)}$	$V_{CC} = 12.2\text{ V}$	0.55	1.10	1.50	V
Minimum ON Time	$t_{on(min)}$		0.5	0.8	1.2	μs

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