

Absolute Maximum Ratings

Exceeding the Absolute Maximum Ratings may damage the device.

Parameter	Rating
V _{HV}	-0.3V to 500V
V _{DRAIN}	-0.7V to 700V
V _{DD} , V _{CGATE}	-0.3V to 40V
V _{CS} , V _{RXP} , V _{RXN} , V _{PRO}	-0.3V to 7V
V _{MGATE}	-0.3V to 20V
Junction Temperature (T _J)	+150°C
Storage Temperature (T _S)	-65°C to +150°C
ESD HBM ⁽¹⁾	4kV
ESD CDM ⁽¹⁾	1kV

Notes:

1. Devices are inherently ESD sensitive, handling precautions are required. Human body model rating: 1.5k in series with 100pF.
2. 1x1inch, 2-layer PCB, follow JEDEC standard.

Recommended Operating Conditions

The device is not guaranteed to operate beyond the Maximum Recommended Operating Conditions.

Parameter	Rating
Supply Voltage (V _{DD})	8V to 33V
Ambient Temperature (T _A)	-40°C to +125°C
Package Thermal Resistance	25°C/W ⁽²⁾

Electrical Characteristics

V_{DD}=15V, T_A = -25°C to 85°C, unless otherwise specified.

Symbol	Parameter	Conditions	Min	Typ	Max	Units
MOSFET						
R _{DS(ON)}	ON State Resistance	Static, I _{DRAIN} = 1A, V _{DD} = 10V, T _J = 25°C		0.6	0.75	
HV						
I _{HV}	Supply Current from HV Pin	V _{HV} = 100V, V _{DD} = 0V, converter OFF		3.6	4.8	mA
I _{HV_LC}	Leakage Current from HV Pin	V _{HV} = 500V, V _{DD} = 18V, converter ON		0.8		μA
VDD						
V _{DD_OVP}	VDD Over-Voltage Protection Level		34	36	38.2	V
t _{D_OVP}	VDD Over-Voltage Protection Debounce Time ⁽¹⁾			20		μs
V _{DD_ON}	Turn-ON Threshold Voltage		14.0	15.5	17.0	V
V _{DD_UVLO}	Turn-OFF and Under Voltage Lock Out		6.2	6.7	7.2	V
I _{DD_OP}	Operation Current	V _{DD} = 15V, converter ON, f _S = 80kHz	0.6	1.2	1.8	mA
I _{DD_SKIP}	Skip Mode Operation Current	V _{DD} = 7V		500	550	μA
I _{DD_DIS}	Disable Mode Operation Current	V _{DD} = 15V, V _{DD_OVP} is enabled or no GATE output		90	150	μA
Frequency						
f _{OSC}	Start-up Operation Frequency	V _{PRO} = 1V		100		kHz
f _{OSC1}		V _{PRO} = 0.5V		50		kHz
Protection Function						
V _{PRO_MIN}	Min. Clamp Voltage	I _{PRO} = -0.1mA	0.1	0.2	0.25	V
V _{DISH}	Disable Voltage Level (High)		1.4	1.5	1.6	V
t _{DISHBN}	Blanking Time		0.6	0.8	1	μs
t _{DISHDB}	V _{DISH} Debounce Cycles			4		Cycles
Gate Drive						
V _{G_CLAMP}	GATE Clamping Voltage	V _{DD} = 15V		12		V
t _{LEB}	Leading Edge Blanking Time		300	350	420	ns
t _{PD}	Propagation Delay Time			50	100	ns

