Electrical Characteristics T_C = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
Boost IGBT						
Off Characteristics						
BV_{CES}	Collector-Emitter Breakdown Voltage	V_{GE} = 0 V, I_C = 1 mA	650	-	-	V
I_{CES}	Collector Cut-off Current	V_{CE} = V_{CES}, V_{GE} = 0 V	-	-	250	μA
I_{GES}	Gate-Emitter Leakage Current	V_{GE} = V_{GES}, V_{CE} = 0 V	-	-	± 2	μA
On Characteristics						
$V_{GE(th)}$	Gate-Emitter Threshold Voltage	V_{GE} = V_{CE}, I_C = 40 mA	3.9	5.1	6.8	V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 40 A, V_{GE} = 15 V	-	1.55	2.2	V
		I_C = 40 A, V_{GE} = 15 V, T_C = 125 °C	-	1.85	-	V
R_{LEAD}	Lead Resistance of Pin to Chip	per Chip	-	3.3	-	mΩ
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time	V_{CC} = 300 V I_C = 40 A V_{GE} = 15 V R_G = 15 Ω Inductive Load T_C = 25 °C	-	24	-	ns
t_r	Rise Time		-	24	-	ns
$t_{d(off)}$	Turn-Off Delay Time		-	132	-	ns
t_f	Fall Time		-	17	-	ns
E_{ON}	Turn-On Switching Loss per Pulse		-	0.40	-	mJ
E_{OFF}	Turn-Off Switching Loss per Pulse		-	0.28	-	mJ
$t_{d(on)}$	Turn-On Delay Time	V_{CC} = 300 V I_C = 40 A V_{GE} = 15 V R_G = 15 Ω Inductive Load T_C = 125 °C	-	22	-	ns
t_r	Rise Time		-	27	-	ns
$t_{d(off)}$	Turn-Off Delay Time		-	148	-	ns
t_f	Fall Time		-	17	-	ns
E_{ON}	Turn-On Switching Loss per Pulse		-	0.59	-	mJ
E_{OFF}	Turn-Off Switching Loss per Pulse		-	0.37	-	mJ
Q_g	Total Gate Charge	V_{CC} = 300 V, I_C = 40 A, V_{GE} = 15 V	-	65	-	nC
$R_{\theta JC}$	Thermal Resistance of Junction to Case	per Chip	-	-	0.96	°C/W
$R_{\theta CH}$	Thermal Resistance of Case to Heat sink	per Chip, λ_{PCM} = 3.4 W/mK	-	0.54	-	°C/W
Protection Diode						
V_F	Diode Forward Voltage	I_F = 15 A	-	1.05	1.4	V
		I_F = 15 A, T_C = 125 °C	-	0.95	-	V
R_{LEAD}	Lead Resistance of Pin to Chip	per Chip	-	2.4	-	mΩ
I_R	Reverse Leakage Current	V_R = 650 V	-	-	250	μA
$R_{\theta JC}$	Thermal Resistance of Junction to Case	per Chip	-	-	1.07	°C/W
$R_{\theta CH}$	Thermal Resistance of Case to Heat sink	per Chip, λ_{PCM} = 3.4 W/mK	-	0.33	-	°C/W
Boost Diode						
V_F	Diode Forward Voltage	I_F = 15 A	-	1.45	1.9	V
		I_F = 15 A, T_C = 125 °C	-	1.75	-	V
R_{LEAD}	Lead Resistance of Pin to Chip	per Chip	-	2.8	-	mΩ
I_R	Reverse Leakage Current	V_R = 650 V	-	-	60	μA
I_{rr}	Reverse Recovery Current	V_R = 300 V, I_F = 15 A, di / dt = 1390 A/us, T_C = 25 °C	-	9.2	-	A
Q_C	Total Capacitive Charge		-	60	-	nC
E_{rec}	Reverse Recovery Energy		-	4.9	-	μJ
I_{rr}	Reverse Recovery Current	V_R = 300 V, I_F = 15 A, di / dt = 1390 A/us, T_C = 125 °C	-	9.2	-	A
Q_C	Total Capacitive Charge		-	65	-	nC
E_{rec}	Reverse Recovery Energy		-	4.9	-	μJ
$R_{\theta JC}$	Thermal Resistance of Junction to Case	per Chip	-	-	1.52	°C/W
$R_{\theta CH}$	Thermal Resistance of Case to Heat sink	per Chip, λ_{PCM} = 3.4 W/mK	-	0.18	-	°C/W

Electrical Characteristics T_C = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
NTC (Thermistor)						
R_{NTC}	Rated Resistance	T_C = 25 °C	-	10	-	kΩ
		T_C = 100 °C	-	936	-	Ω
	Tolerance	T_C = 25 °C	- 3	-	+ 3	%
P_D	Power Dissipation	T_C = 25 °C	-	-	20	mW
B_{Value}	B-Constant	$B_{25/50}$	-	3450	-	K
		$B_{25/100}$	-	3513	-	K