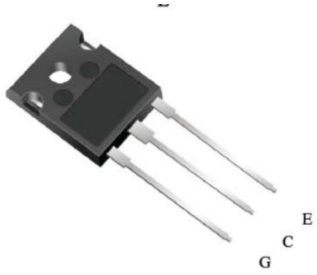
SPT200N65F1A1

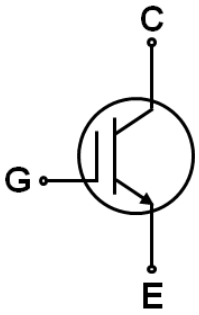
650V 200A Trench IGBT



Features

- Max Junction Temperature 175°C
- Positive Temperature Co-efficient
- Ease of Paralleling
- Short Circuit Rated
- Very Low Saturation Voltage:

  $V_{CE(SAT)}$ = 1.65V (Typ.) @ Ic = 200A
- Optimized for Motor Control Applications



Applications

Automotive Traction Modules

General Power Modules

Absolute Maximum Ratings (T_J= 25 ℃ unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{CES}	Collector to Emitter Voltage	650	**V**
V_{GES}	Gate-to-Emmiter Voltage	±20	**V**
I_C	Collector Current, limited by T_c=100℃	200	**A**
I_{CM}	Pulsed Collector Current, V_{GE}=15V, limited by T_J max	600	**A**
S_{CWT}	Short Circuit Withstand Time, V_{GE}= 15V, V_{CE}≤ 400V, T_J ≤ 150ºC	5	**μs**
T_J	Operating Junction Temperature	-40 to +175	**℃**

Electrical Characteristics of the IGBT (T_J = 25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
Static Characteristics (Tested on wafers)						
BV_{CES}	Collector to Emitter Breakdown Voltage	V_{GE} = 0V, I_C = 1mA	650	-	-	**V**
$V_{CE(SAT)}$	Collector to Emitter Saturation Voltage	I_C = 200A, V_{GE} = 15V	-	1.65	1.9	**V**
$V_{GE(th)}$	G-E Threshold Voltage	V_{GE} = V_{CE}, I_C = 200mA	4.5	5.5	6.5	**V**
I_{CES}	Collector Cut-Off Current	V_{CE} = 650V, V_{GE} = 0V	-	-	40	**μA**
I_{GES}	G-E Leakage Current	V_{GE} = 20V, V_{CE} = 0V	-	-	±400	**nA**

Physical Dimensions Dimensions in micrometer unless otherwise noted