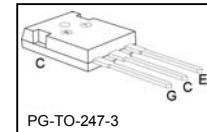
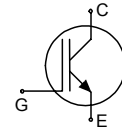


### Low Loss IGBT in TrenchStop® and Fieldstop technology

- Short circuit withstand time – 10µs
- Designed for :
  - Frequency Converters
  - Uninterrupted Power Supply
- TrenchStop® and Fieldstop technology for 1200 V applications offers :
  - very tight parameter distribution
  - high ruggedness, temperature stable behavior
- NPT technology offers easy parallel switching capability due to positive temperature coefficient in  $V_{CE(sat)}$
- Low EMI
- Low Gate Charge
- Qualified according to JEDEC<sup>1</sup> for target applications
- Pb-free lead plating; RoHS compliant
- Complete product spectrum and PSpice Models : <http://www.infineon.com/igbt/>



Type	$V_{CE}$	$I_C$	$V_{CE(sat), T_j=25^\circ C}$	$T_{j,max}$	Marking Code	Package
IGW08T120	1200V	8A	1.7V	150°C	G08T120	PG-TO-247-3

#### Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	$V_{CE}$	1200	V
DC collector current	$I_C$		A
$T_C = 25^\circ C$		16	
$T_C = 100^\circ C$		8	
Pulsed collector current, $t_p$ limited by $T_{j,max}$	$I_{Cpuls}$	24	
Turn off safe operating area	-	24	
$V_{CE} \leq 1200V, T_j \leq 150^\circ C$			
Gate-emitter voltage	$V_{GE}$	$\pm 20$	V
Short circuit withstand time <sup>2)</sup>	$t_{SC}$	10	µs
$V_{GE} = 15V, V_{CC} \leq 1200V, T_j \leq 150^\circ C$			
Power dissipation	$P_{tot}$	70	W
$T_C = 25^\circ C$			
Operating junction temperature	$T_j$	-40...+150	°C
Storage temperature	$T_{stg}$	-55...+150	
Soldering temperature, 1.6mm (0.063 in.) from case for 10s	-	260	

<sup>1</sup> J-STD-020 and JEDEC-022

<sup>2)</sup> Allowed number of short circuits: <1000; time between short circuits: >1s.

**Thermal Resistance**

Parameter	Symbol	Conditions	Max. Value	Unit
<b>Characteristic</b>				
IGBT thermal resistance, junction – case	$R_{thJC}$		1.7	K/W
Thermal resistance, junction – ambient	$R_{thJA}$		40	

**Electrical Characteristic, at  $T_j = 25^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
<b>Static Characteristic</b>						
Collector-emitter breakdown voltage	$V_{(BR)CES}$	$V_{GE}=0V, I_C=0.5mA$	1200	-	-	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$V_{GE} = 15V, I_C=8A$ $T_j=25^\circ\text{C}$ $T_j=125^\circ\text{C}$ $T_j=150^\circ\text{C}$	-	1.7	2.2	
			-	2.0	-	
			-	2.2	-	
Gate-emitter threshold voltage	$V_{GE(th)}$	$I_C=0.3mA, V_{CE}=V_{GE}$	5.0	5.8	6.5	
Zero gate voltage collector current	$I_{CES}$	$V_{CE}=1200V,$ $V_{GE}=0V$ $T_j=25^\circ\text{C}$ $T_j=150^\circ\text{C}$	-	-	0.2	mA
			-	-	2.0	
Gate-emitter leakage current	$I_{GES}$	$V_{CE}=0V, V_{GE}=20V$	-	-	100	nA
Transconductance	$g_{fs}$	$V_{CE}=20V, I_C=8A$	-	5	-	S
Integrated gate resistor	$R_{Gint}$		none			$\Omega$

**Dynamic Characteristic**

Input capacitance	$C_{iss}$	$V_{CE}=25V,$	-	600	-	pF
Output capacitance	$C_{oss}$	$V_{GE}=0V,$	-	36	-	
Reverse transfer capacitance	$C_{riss}$	$f=1MHz$	-	28	-	
Gate charge	$Q_{Gate}$	$V_{CC}=960V, I_C=8A$ $V_{GE}=15V$	-	53	-	nC
Internal emitter inductance measured 5mm (0.197 in.) from case	$L_E$		-	13	-	nH
Short circuit collector current <sup>1)</sup>	$I_{C(SC)}$	$V_{GE}=15V, t_{SC}\leq 10\mu s$ $V_{CC}=600V,$ $T_j=25^\circ\text{C}$	-	48	-	A

<sup>1)</sup> Allowed number of short circuits: <1000; time between short circuits: >1s.