

## Insulated Gate Bipolar Transistor (IGBT)

### General Description

The ID30G65T is a high voltage IGBT with an internal fast recovery anti-parallel diode. The operating voltage and is higher than 650V.

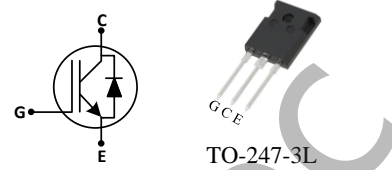
### Applications

- Resonant converters
- Welding converters
- Mid to high range power supplies

### Features

- Fully operational to +650V DC
- Low  $V_{CE(sat)}$  1.5V (typ.)
- High ruggedness, temperature stable behavior

### Package/Order Information



Order code	Package
ID30G65TCE-A1	TO-247-3L

### Absolute Maximum Ratings <sup>(1)</sup>

Symbol	Parameter	Value	Unit
$V_{CE}$	Collector-emitter voltage, $T_J \geq 25^\circ\text{C}$	650	V
$I_{C(25)}$	DC collector current, $T_C = 25^\circ\text{C}$	54	A
$I_{C(100)}$	DC collector current, $T_C = 100^\circ\text{C}$	39	
$I_{Cpuls}$	Pulsed collector current	120	
$I_{F(25)}$	Diode forward current, $T_C = 25^\circ\text{C}$	54	
$I_{F(100)}$	Diode forward current, $T_C = 100^\circ\text{C}$	39	
$I_{Fpuls}$	Pulsed diode forward current	120	
$V_{GE}$	Gate-emitter voltage	$\pm 30$	V
$P_D$	Power dissipation@ $T_C = 25^\circ\text{C}$	187	W
	Power dissipation@ $T_C = 100^\circ\text{C}$	94	W
$T_J$	Operating junction temperature	-40~+175	$^\circ\text{C}$
$T_S$	Storage temperature	-55~+150	$^\circ\text{C}$

Note: (1) Stresses outside the Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at any conditions beyond those indicated under Recommended Operating Conditions is not implied. Exposure to the Absolute Maximum Ratings for extended periods may affect device reliability. The above Absolute Maximum Ratings are at  $T_A = 25^\circ\text{C}$ , unless otherwise specified.

### Thermal Resistance

Symbol	Parameter	Max. Value	Unit
$R_{thJC}$	Junction to case thermal resistance of IGBT (TO-247)	0.8	$^\circ\text{C}/\text{W}$
$R_{thJC}$	Junction to case thermal resistance of Diode (TO-247)	1	$^\circ\text{C}/\text{W}$
$R_{thJA}$	Junction to ambient thermal resistance	40	$^\circ\text{C}/\text{W}$