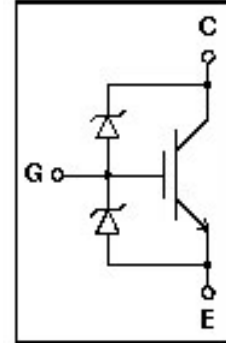


# Delphi Ignition IG-2066

### ► Description

Insulated-gate Bipolar Transistors (IGBTs) from Delphi are cost-effective output drivers for automotive ignition systems. These devices are optimized for ruggedness and low saturation voltage. The on-board over-voltage clamp protects the device during open-secondary conditions and provides a breakdown voltage that is tightly controlled and nearly independent of temperature. These devices can be supplied as bare die or in TO-220 plastic packages.



### ► Features

- $BV_{ces} = 660\text{ V}$
- $V_{ce\ sat} = 1.7\text{ V}$
- $I_c = 6.5\text{ A}$
- Logic-level gate drive
- On-board over-voltage clamp
- ESD protection for gate electrode
- Reverse-battery protection
- Low saturation voltage
- High-temperature capability ( $175^\circ\text{ C}$ )
- High-energy capability

Absolute Maximum Ratings ( $T_j=25^\circ\text{C}$ )			
Symbol	Parameter	Ratings	Unit
$V_{ge}$	Gate-Emitter Voltage	$\pm 12$	V
$V_{ce}$	Collector-Emitter Voltage	680	V
$I_{ce}$	Collector Current (continuous)	8	A
$E_{as}$	Avalanche Energy	400	mJ
$T_i$	Operating Temp. (junction)	175	$^\circ\text{C}$

### Delphi Ignition IG-2066

Specifications											
Symbol	Parameter	25°C			-40°C			150°C			Units
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
BVces	Collector-Emitter Breakdown Voltage IC=10mA, Rge=300ohms	630	660	680	630	660	680	630	660	680	V
BVecs	Emitter-Collector Breakdown Voltage IC=1mA	20			20			20			V
Ices	Collector-Emitter Leakage Current Vce=360V, Vge=0V			20			10			200	µA
Vce(sat)	Collector-Emitter Saturation Voltage Vge=3.5V, Ic=12A		1.2	1.7		1.3	1.8		1.1	1.6	V
Vge(th)	Gate Threshold Vge=Vce, Ic=1.0mA	1.2	1.4	2.1	1.2	1.5	2.3	0.7	0.9	1.9	V
BVgeo	Gate-Emitter Clamp Breakdown Voltage Vce=Open, Ige=5.0mA	17	19	22	17	19	22	17	19	22	V
Ige	Gate-Emitter Bias Current Vge=10V, Vce=0V			5			5			10	µA
Td(off)	Turn off Delay (90% VG to 90% Ic) Vcc=20V, Vge=5V, Rg=500			5			5			5	µsec
Tf	Fall Time (90% Ic to 10% Ic) Vcc=20V, Vge=5V, Rg=500ohms			10			10			13	µs