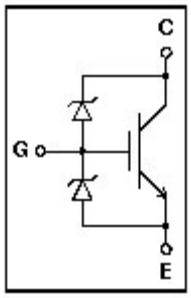
Delphi Ignition IG-1545

Description



Insulated-Gate Bipolar Transistors (IGBTs) from Delphi Microelectronics 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

- BVces = 450 V
- Vce sat = 2.1 V
- Ic = 12 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°C)
- High energy capability (300mJ)

Absolute Maximum Ratings (Tj=25°C)			
Symbol	**Parameter**	**Ratings**	**Unit**
Vge	Gate-Emitter Voltage	±12	V
Vce	Collector-Emitter Voltage	475	V
Ice	Collector Current (continuous)	12	A
Eas	Avalanche Energy	300	mJ
Ti	Operating Temp. (junction)	175	°C

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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	425	450	475	425	450	475	425	450	475	V
BVecs	Emitter-Collector Breakdown Voltage IC=1mA	20			20			20			V
Ices	Collector-Emitter Leakage Current Vce=360V, Vge=0V			10			5			100	µA
Vce(sat)	Collector-Emitter Saturation Voltage Vge=3.5V, Ic=12A		1.5	2.1		1.5	2.3		1.6	2.1	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

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