

General Description

This IGBT is produced using advanced MagnaChip's Field Stop Trench IGBT 2nd Generation Technology, which is not only the highest efficiency capable of switching behavior, but also it is high ruggedness and excellent quality for solar inverter, UPS, IH, welder and PFC application where low conduction losses are essential

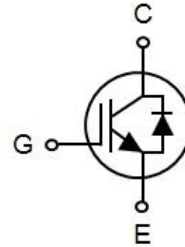
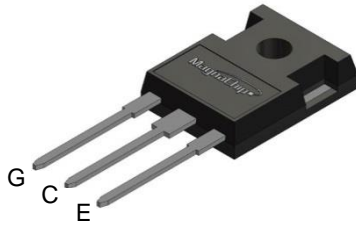
Features

- High Speed Switching & Low Power Loss
- $V_{CE(sat)} = 1.85V @ I_C = 60A$
- $E_{off} = 0.53mJ @ T_C = 25^\circ C$
- High Input Impedance
- $t_{rr} = 110ns (typ.) @ di_F/dt = 500A/\mu s$
- Maximum Junction Temperature $175^\circ C$

Applications

- PFC
- Welder
- UPS
- IH Cooker
- PV Inverter

TO-247



Maximum Rating

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	V_{CE}	650	V
DC collector current, limited by T_{vjmax}	I_C	$T_C=25^\circ C$	100
		$T_C=100^\circ C$	60
Pulsed collector current, t_p limited by T_{vjmax}	I_{Cp}	180	A
Turn off safe operating area $V_{CE} \leq 650V, T_{vj} \leq 175^\circ C$	-	180	A
Diode forward current limited by T_{vjmax}	I_F	$T_C=25^\circ C$	60
		$T_C=100^\circ C$	30
Diode pulsed current, t_p limited by T_{vjmax}	I_{Fp}	200	A
Gate-emitter voltage	V_{GE}	± 20	V
Power dissipation	P_D	$T_C=25^\circ C$	428
		$T_C=100^\circ C$	214
Short circuit withstand time $V_{CC} \leq 400V, R_G = 7\Omega, V_{GE} = 15V, T_{vj} = 150^\circ C$	tsc	5	μs
Operating Junction temperature range	T_{vj}	-40~175	$^\circ C$
Storage temperature range	T_{stg}	-55~150	$^\circ C$
Soldering temperature Wave soldering 1.6 mm (0.063 in.) from case for 10s		260	$^\circ C$
Mounting torque, M3 screw Maximum of mounting processes: 3	M	0.6	Nm

Thermal Characteristic

Parameter	Symbol	Rating	Unit
Thermal resistance junction-to-ambient	$R_{\theta JA}$	40	$^\circ C/W$
Thermal resistance junction-to-case for IGBT	$R_{\theta JC}$	0.35	
Thermal resistance junction-to-case for Diode	$R_{\theta JC}$	1.2	