

1200V IGBT Wafer

Ordering Information

Wafer Name	CDJX646IG1200AF	Chip Name	/
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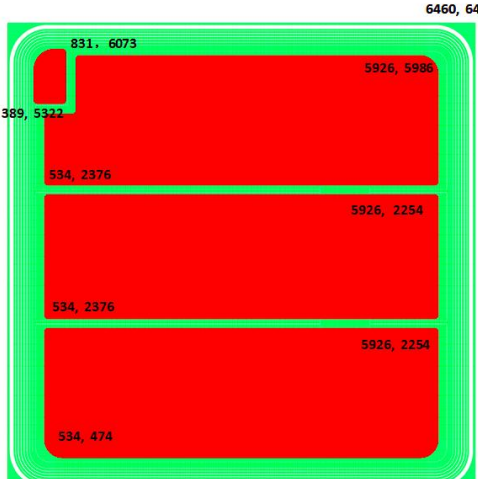
Applications

- Industrial Motor Drivers
- Inverter
- Welding
- UPS

Features

- ① Field Stop Planar Gate IGBT
- ② Low Collector-Emitter saturation voltage
- ③ High short circuit capability
- ④ Low swiching losses

Die outline and Info.

	$V_{CE}=1200V, I_C=40A$ $V_{CE(sat)}=2.3V$ Die Size: 6460 μm * 6460 μm (含划片槽) Gate Pad Size: 419 μm * 718 μm Source Pad Size: 5306 μm * 1690 μm * 3, With PA Layer Back Metal: AlTiNiAg, 1.5μm Front Metal, Thickness: AlSiCu, 4μm Gross Die: 344
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Mechanical Data

Nominal Back Metal Composition:	AlTiNiAg 1.5 μm
Nominal Front Metal Composition, Thickness:	AlSiCu(98.5%-1%-0.5%)4 μm
Wafer Diameter:	150 mm (6 inch)
Wafer Thickness:	130 μm
Minimum Street Width	60 μm
Reject Ink Dot	ink
Recommended Storage Environment:	Store in original container, in desiccated nitrogen, with no contamination
Recommended Die Attach Conditions:	For optimum electrical results, die attach temperature should not exceed 300 °C

Electrical Characteristic Note*

(Device Major Electrical Characteristics for TO-247H package Reference ; $T_{vj}=25^{\circ}\text{C}$ unless otherwise specified.)

Parameter	Description	Min.	Typ.	Max.	Test Conditions	Unit
$V_{(BR)CES}$	Collector-to-Emitter BV	1200	--	--	$V_{GE} = 0V, I_C = 250\mu A$	V
V_{GES}	Gate-to-Emitter Voltage	--	--	± 30	NA	V
$V_{CE(sat)}$	Collector-to-Emitter saturation Voltage	--	2.3	2.8	$V_{GE} = 15V, I_C = 40A$	V
$V_{GE(th)}$	Gate-to-Emitter Threshold Voltage	4.8	--	6.6	$V_{CE} = V_{GE}, I_C = 1mA$	V
I_{CES}	Collector-to-Emitter Leakage Current	--	--	10	$V_{CE} = 1200V, V_{GE} = 0V$	μA
I_{GES}	Gate-to-Emitter Leakage Current	--	--	± 100	$V_{GE} = \pm 30V$	nA
C_{ies}	Input capacitance	--	3262	--	$V_{GE} = 0V, V_{CE} = 25V, f = 1MHz$	pF
C_{res}	Reverse transfer capacitance	--	67	--		pF
$t_{d(on)}$	Switching time *Reference characteristics	--	130	--	$V_{CC} = 600V, I_C = 40A$ $V_{GE} = 0/15V$ $R_g = 25\Omega$	ns
t_r		--	40	--		ns
$t_{d(off)}$		--	220	--		ns
t_f		--	190	--		ns
T_{sc}	Short circuit withstand time	10	--	--		μs
T_{vj}	Operating Junction and	-40 $^{\circ}\text{C}$ to 175 $^{\circ}\text{C}$ Max.				$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range					

Note*

Electrical characteristics are reported for the reference packaged part (TO-247H) and can not be guaranteed in die sales form. Variations in customer packaging materials, dimensions and processes may affect parametric performance.

Shipping

- One shipping options is offered as standard.
- Un-sawn wafer

Handling

- Product must be handled only at ESD safe workstations. Standard ESD precautions and safe work environments are as defined in MIL-HDBK-263.
- Product must be handled only in a class 10,000 or better-designated clean room environment.

Wafer/Die Storage

- Proper storage conditions are necessary to prevent product contamination and/or degradation after shipment.
- Un-sawn wafers and singulated die can be stored for up to 12 months when in the original sealed packaging at room temperature (45% +/- 15% RH controlled environment).
- Un-sawn wafers and singulated die that have been opened can be stored when returned to their containers and placed in a Nitrogen purged cabinet, at room temperature (45% +/- 15% RH controlled environment).
- Note: To reduce the risk of contamination or degradation, it is recommended that product not being used in the assembly process be returned to their original containers and resealed with a vacuum seal process.
- Sawn wafers on a film frame are intended for immediate use and have a limited shelf life.

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