EasyPACK™ Modul mit TRENCHSTOP™ IGBT7 und CoolSiC™ Schottky Diode und PressFIT / NTC
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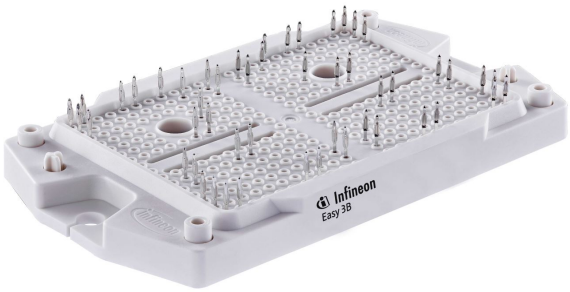

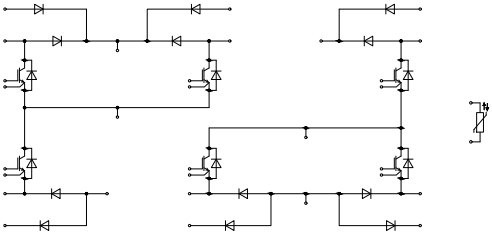

V_{CES} = 950V
$I_{C\ nom}$ = 100A / I_{CRM} = 200A

Potentielle Anwendungen
- 3-Level-Applikationen
- Solar Anwendungen
- USV-Systeme

Potential Applications
- 3-level-applications
- Solar applications
- UPS systems

Elektrische Eigenschaften
- CoolSiC™ Schottky Diode Gen 5
- Niedrige Schaltverluste
- Trenchstop™ IGBT7

Electrical Features
- CoolSiC™ Schottky diode gen 5
- Low switching losses
- Trenchstop™ IGBT7

Mechanische Eigenschaften
- Al_2O_3 Substrat mit kleinem thermischen Widerstand
- Integrierter NTC Temperatur Sensor
- Kompaktes Design
- PressFIT Verbindungstechnik

Mechanical Features
- Al_2O_3 substrate with low thermal resistance
- Integrated NTC temperature sensor
- Compact design
- PressFIT contact technology

Module Label Code

Barcode Code 128

Sample
00000123456000000000000

DMX - Code

Content of the Code	Digit
Module Serial Number	1 - 5
Module Material Number	6 - 11
Production Order Number	12 - 19
Datecode (Production Year)	20 - 21
Datecode (Production Week)	22 - 23

IGBT, Hochsetzsteller / IGBT, Boost

Höchstzulässige Werte / Maximum Rated Values

Kollektor-Emitter-Sperrspannung Collector-emitter voltage	T_{vj} = 25°C	V_{CES}	950	V
Implementierter Kollektor-Strom Implemented collector current		I_{CN}	100	A
Kollektor-Dauergleichstrom Continuous DC collector current	T_H = 65°C, $T_{vj\,max}$ = 175°C	I_{CDC}	70	A
Periodischer Kollektor-Spitzenstrom Repetitive peak collector current	t_P = 1 ms	I_{CRM}	200	A
Gate-Emitter-Spitzenspannung Gate-emitter peak voltage		V_{GES}	+/-20	V

Charakteristische Werte / Characteristic Values

			min.	typ.	max.	
Kollektor-Emitter-Sättigungsspannung Collector-emitter saturation voltage	I_C = 25 A, V_{GE} = 15 V I_C = 25 A, V_{GE} = 15 V I_C = 25 A, V_{GE} = 15 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	$V_{CE\,sat}$		1,27 1,33 1,33	1,55	V V V
Gate-Schwellenspannung Gate threshold voltage	I_C = 1,67 mA, V_{CE} = V_{GE}, T_{vj} = 25°C		V_{GEth}	4,35	5,10	5,85	V
Gateladung Gate charge	V_{GE} = -15 / 15 V, V_{CE} = 600 V		Q_G		0,23		µC
Interner Gatewiderstand Internal gate resistor	T_{vj} = 25°C		R_{Gint}		1,5		Ω
Eingangskapazität Input capacitance	f = 100 kHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V		C_{ies}		6,48		nF
Rückwirkungskapazität Reverse transfer capacitance	f = 100 kHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V		C_{res}		0,02		nF
Kollektor-Emitter-Reststrom Collector-emitter cut-off current	V_{CE} = 950 V, V_{GE} = 0 V	T_{vj} = 25°C	I_{CES}			0,031	mA
Gate-Emitter-Reststrom Gate-emitter leakage current	V_{CE} = 0 V, V_{GE} = 20 V, T_{vj} = 25°C		I_{GES}			100	nA
Einschaltverzögerungszeit, induktive Last Turn-on delay time, inductive load	I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Gon} = 10 Ω I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Gon} = 10 Ω I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Gon} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	$t_{d\,on}$		0,074 0,071 0,062		µs µs µs
Anstiegszeit, induktive Last Rise time, inductive load	I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Gon} = 10 Ω I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Gon} = 10 Ω I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Gon} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	t_r		0,013 0,015 0,015		µs µs µs
Abschaltverzögerungszeit, induktive Last Turn-off delay time, inductive load	I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Goff} = 10 Ω I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Goff} = 10 Ω I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Goff} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	$t_{d\,off}$		0,178 0,275 0,308		µs µs µs
Fallzeit, induktive Last Fall time, inductive load	I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Goff} = 10 Ω I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Goff} = 10 Ω I_C = 25 A, V_{CE} = 500 V, V_{GE} = -15 / 15 V, R_{Goff} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	t_f		0,107 0,139 0,161		µs µs µs
Einschaltverlustenergie pro Puls Turn-on energy loss per pulse	I_C = 25 A, V_{CE} = 500 V, Lσ = 35 nH, di/dt = 880 A/µs (T_{vj} = 150°C), V_{GE} = -15 / 15 V, R_{Gon} = 10 Ω I_C = 25 A, V_{CE} = 500 V, Lσ = 35 nH, di/dt = 880 A/µs (T_{vj} = 150°C), V_{GE} = -15 / 15 V, R_{Gon} = 10 Ω I_C = 25 A, V_{CE} = 500 V, Lσ = 35 nH, di/dt = 880 A/µs (T_{vj} = 150°C), V_{GE} = -15 / 15 V, R_{Gon} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	E_{on}		0,575 0,589 0,596		mJ mJ mJ
Abschaltverlustenergie pro Puls Turn-off energy loss per pulse	I_C = 25 A, V_{CE} = 500 V, Lσ = 35 nH, du/dt = 2700 V/µs (T_{vj} = 150°C), V_{GE} = -15 / 15 V, R_{Goff} = 10 Ω I_C = 25 A, V_{CE} = 500 V, Lσ = 35 nH, du/dt = 2700 V/µs (T_{vj} = 150°C), V_{GE} = -15 / 15 V, R_{Goff} = 10 Ω I_C = 25 A, V_{CE} = 500 V, Lσ = 35 nH, du/dt = 2700 V/µs (T_{vj} = 150°C), V_{GE} = -15 / 15 V, R_{Goff} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	E_{off}		1,05 1,62 1,79		mJ mJ mJ
Kurzschlußverhalten SC data	V_{GE} ≤ 15 V, V_{CC} = 600 V V_{CEmax} = V_{CES} -L_{sCE} ·di/dt	t_P ≤ 0 µs, T_{vj} = 150°C	I_{SC}		300		A
Wärmewiderstand, Chip bis Kühlkörper Thermal resistance, junction to heatsink	pro IGBT / per IGBT		R_{thJH}		0,673		K/W
Temperatur im Schaltbetrieb Temperature under switching conditions			$T_{vj\,op}$	-40		150	°C