EasyPACK™ Modul mit aktiver "Neutral Point Clamp 2" Topologie und PressFIT / NTC / TIM
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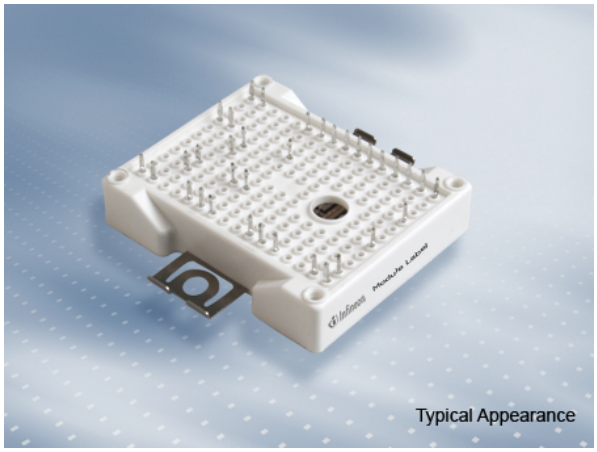

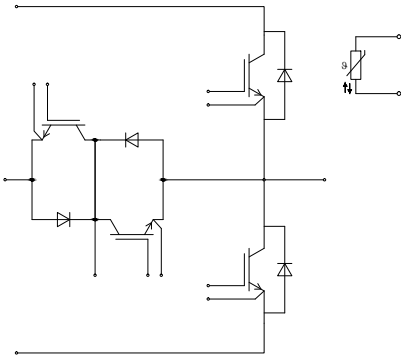

V_{CES} = 650V
$I_{C\ nom}$ = 125A / I_{CRM} = 250A

Typische Anwendungen
- 3-Level-Applikationen
- Motorantriebe
- Solar Anwendungen
- USV-Systeme

Typical Applications
- 3-level-applications
- Motor drives
- Solar applications
- UPS systems

Elektrische Eigenschaften
- High Speed IGBT H3
- $T_{vj\ op}$ = 150°C

Electrical Features
- High speed IGBT H3
- $T_{vj\ op}$ = 150°C

Mechanische Eigenschaften
- 2,5 kV AC 1min Isolationsfestigkeit
- Integrierter NTC Temperatur Sensor
- PressFIT Verbindungstechnik
- RoHS konform
- Thermisches Interface Material bereits aufgetragen

Mechanical Features
- 2.5 kV AC 1min insulation
- Integrated NTC temperature sensor
- PressFIT contact technology
- RoHS compliant
- Pre-applied Thermal Interface Material

Module Label Code

Barcode Code 128

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, T1 / T4 / IGBT, T1 / T4

Höchstzulässige Werte / Maximum Rated Values

Kollektor-Emitter-Sperrspannung Collector-emitter voltage	T_{vj} = 25°C	V_{CES}	650	V
Implementierter Kollektor-Strom Implemented collector current		I_{CN}	225	A
Kollektor-Dauergleichstrom Continuous DC collector current	T_H = 95°C, $T_{vj\,max}$ = 175°C	$I_{C\,nom}$	125	A
Periodischer Kollektor-Spitzenstrom Repetitive peak collector current	t_P = 1 ms	I_{CRM}	450	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 = 125 A, V_{GE} = 15 V I_C = 125 A, V_{GE} = 15 V I_C = 125 A, V_{GE} = 15 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	$V_{CE\,sat}$		1,40 1,45 1,45	1,65	V V V
Gate-Schwellenspannung Gate threshold voltage	I_C = 3,60 mA, V_{CE} = V_{GE}, T_{vj} = 25°C		V_{GEth}	5,05	5,80	6,45	V
Gateladung Gate charge	V_{GE} = -15 V ... +15 V		Q_G		2,40		µC
Interner Gatewiderstand Internal gate resistor	T_{vj} = 25°C		R_{Gint}		0,0		Ω
Eingangskapazität Input capacitance	f = 1 MHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V		C_{ies}		14,0		nF
Rückwirkungskapazität Reverse transfer capacitance	f = 1 MHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V		C_{res}		0,42		nF
Kollektor-Emitter-Reststrom Collector-emitter cut-off current	V_{CE} = 650 V, V_{GE} = 0 V, T_{vj} = 25°C		I_{CES}			1,0	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 = 125 A, V_{CE} = 400 V V_{GE} = ±15 V R_{Gon} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	$t_{d\,on}$		0,06 0,07 0,07		µs µs µs
Anstiegszeit, induktive Last Rise time, inductive load	I_C = 125 A, V_{CE} = 400 V V_{GE} = ±15 V R_{Gon} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	t_r		0,09 0,10 0,10		µs µs µs
Abschaltverzögerungszeit, induktive Last Turn-off delay time, inductive load	I_C = 125 A, V_{CE} = 400 V V_{GE} = ±15 V R_{Goff} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	$t_{d\,off}$		0,06 0,07 0,07		µs µs µs
Fallzeit, induktive Last Fall time, inductive load	I_C = 125 A, V_{CE} = 400 V V_{GE} = ±15 V R_{Goff} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	t_f		0,03 0,04 0,04		µs µs µs
Einschaltverlustenergie pro Puls Turn-on energy loss per pulse	I_C = 125 A, V_{CE} = 400 V, L_S = 25 nH V_{GE} = ±15 V, di/dt = 1500 A/µs (T_{vj} = 150°C) R_{Gon} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	E_{on}		8,50 10,0 10,5		mJ mJ mJ
Abschaltverlustenergie pro Puls Turn-off energy loss per pulse	I_C = 125 A, V_{CE} = 400 V, L_S = 25 nH V_{GE} = ±15 V, du/dt = 2900 V/µs (T_{vj} = 150°C) R_{Goff} = 10 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	E_{off}		4,40 5,20 5,80		mJ mJ mJ
Kurzschlußverhalten SC data	V_{GE} ≤ 15 V, V_{CC} = 400 V V_{CEmax} = V_{CES} -L_{sCE} ·di/dt	t_P ≤ 0 µs, T_{vj} = 150°C	I_{SC}		1300		A
Wärmewiderstand, Chip bis Kühlkörper Thermal resistance, junction to heatsink	pro IGBT / per IGBT valid with IFX pre-applied thermal interface material		R_{thJH}			0,364	K/W
Temperatur im Schaltbetrieb Temperature under switching conditions			$T_{vj\,op}$	-40		150	°C