EasyPACK™ Modul mit TRENCHSTOP™ IGBT7 und Emitter Controlled 7 Diode und NTC
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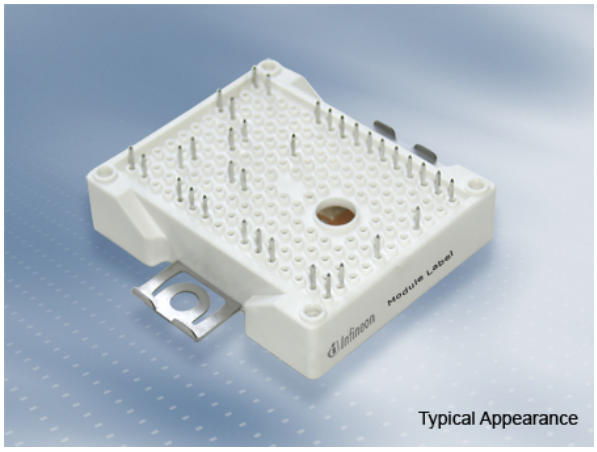
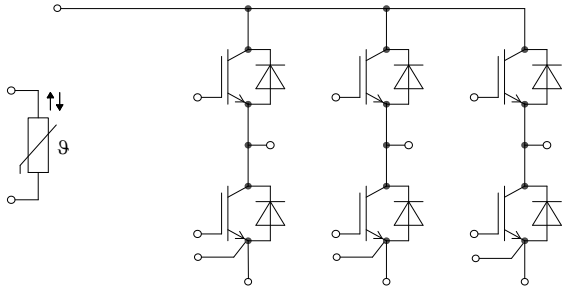
Vorläufige Daten / Preliminary Data





V_{CES} = 1200V
$I_{C\ nom}$ = 50A / I_{CRM} = 100A

Potentielle Anwendungen
- Hilfsumrichter
- Klimaanlagen
- Motorantriebe
- Servoumrichter
- USV-Systeme

Potential Applications
- Auxiliary inverters
- Air conditioning
- Motor drives
- Servo drives
- UPS systems

Elektrische Eigenschaften
- Niedriges V_{CEsat}
- Trenchstop™ IGBT7
- Überlastbetrieb bis zu 175°C

Electrical Features
- Low V_{CEsat}
- Trenchstop™ IGBT7
- Overload operation up to 175°C

Mechanische Eigenschaften
- 2,5 kV AC 1min Isolationsfestigkeit
- Al_2O_3 Substrat mit kleinem thermischen Widerstand
- Hohe Leistungsdichte
- Kompaktes Design
- Lötverbindungstechnik

Mechanical Features
- 2.5 kV AC 1min insulation
- Al_2O_3 substrate with low thermal resistance
- High power density
- Compact design
- Solder 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

Vorläufige Daten
Preliminary Data

IGBT,Wechselrichter / IGBT,Inverter

Höchstzulässige Werte / Maximum Rated Values

Kollektor-Emitter-Sperrspannung Collector-emitter voltage	T_{vj} = 25°C	V_{CES}	1200		V
Kollektor-Dauergleichstrom Continuous DC collector current	T_H = 65°C, $T_{vj\,max}$ = 175°C	I_{CDC}	50		A
Periodischer Kollektor-Spitzenstrom Repetitive peak collector current	t_P = 1 ms	I_{CRM}	100		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 = 50 A, V_{GE} = 15 V 	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 175°C	$V_{CE\,sat}$		1,50 1,64 1,72	t.b.d.	V V V
Gate-Schwellenspannung Gate threshold voltage	I_C = 1,28 mA, V_{CE} = V_{GE}, T_{vj} = 25°C		V_{GEth}	5,15	5,80	6,45	V
Gateladung Gate charge	V_{GE} = -15 / 15 V, V_{CE} = 600 V		Q_G		0,92		µC
Interner Gatewiderstand Internal gate resistor	T_{vj} = 25°C		R_{Gint}		0,0		Ω
Eingangskapazität Input capacitance	f = 100 kHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V		C_{ies}		11,1		nF
Rückwirkungskapazität Reverse transfer capacitance	f = 100 kHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V		C_{res}		0,039		nF
Kollektor-Emitter-Reststrom Collector-emitter cut-off current	V_{CE} = 1200 V, V_{GE} = 0 V	T_{vj} = 25°C	I_{CES}			0,0079	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 = 50 A, V_{CE} = 600 V V_{GE} = -15 / 15 V R_{Gon} = 5,1 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 175°C	$t_{d\,on}$		0,0183 0,0298 0,035		µs µs µs
Anstiegszeit, induktive Last Rise time, inductive load	I_C = 50 A, V_{CE} = 600 V V_{GE} = -15 / 15 V R_{Gon} = 5,1 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 175°C	t_r		0,0213 0,024 0,025		µs µs µs
Abschaltverzögerungszeit, induktive Last Turn-off delay time, inductive load	I_C = 50 A, V_{CE} = 600 V V_{GE} = -15 / 15 V R_{Goff} = 5,1 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 175°C	$t_{d\,off}$		0,27 0,325 0,36		µs µs µs
Fallzeit, induktive Last Fall time, inductive load	I_C = 50 A, V_{CE} = 600 V V_{GE} = -15 / 15 V R_{Goff} = 5,1 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 175°C	t_f		0,12 0,187 0,264		µs µs µs
Einschaltverlustenergie pro Puls Turn-on energy loss per pulse	I_C = 50 A, V_{CE} = 600 V, Lσ = 35 nH di/dt = 1650 A/µs (T_{vj} = 175°C) V_{GE} = -15 / 15 V, R_{Gon} = 5,1 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 175°C	E_{on}		2,41 4,30 5,45		mJ mJ mJ
Abschaltverlustenergie pro Puls Turn-off energy loss per pulse	I_C = 50 A, V_{CE} = 600 V, Lσ = 35 nH du/dt = 2900 V/µs (T_{vj} = 175°C) V_{GE} = -15 / 15 V, R_{Goff} = 5,1 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 175°C	E_{off}		1,90 4,72 6,12		mJ mJ mJ
Kurzschlußverhalten SC data	V_{GE} ≤ 15 V, V_{CC} = 800 V V_{CEmax} = V_{CES} -L_{sCE} ·di/dt	t_P ≤ 8 µs, T_{vj} = 150°C t_P ≤ 7 µs, T_{vj} = 175°C	I_{SC}		190 180		A A
Wärmewiderstand, Chip bis Kühlkörper Thermal resistance, junction to heatsink	pro IGBT / per IGBT		R_{thJH}		0,955		K/W
Temperatur im Schaltbetrieb Temperature under switching conditions			$T_{vj\,op}$	-40		175	°C