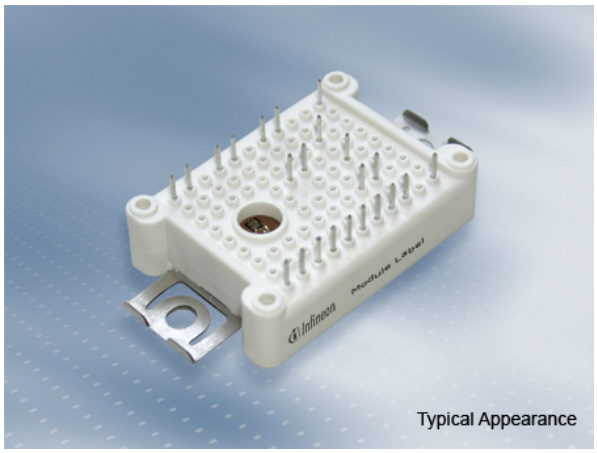
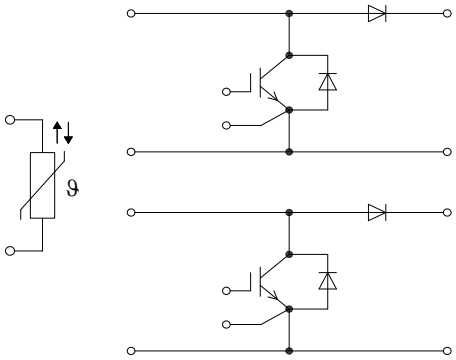
EasyPACK™ Modul mit TRENCHSTOP™ 5 H5 und CoolSiC™ Diode und PressFIT / bereits aufgetragenem Thermal Interface Material

EasyPACK™ module with TRENCHSTOP™ 5 H5 and CoolSiC™ diode and PressFIT / pre-applied Thermal Interface Material





V_{CES} = 650V
$I_{C\ nom}$ = 50A / I_{CRM} = 100A

Typische Anwendungen
- Solar Anwendungen

Typical Applications
- Solar applications

Elektrische Eigenschaften
- CoolSiC (TM) Schottky Diode Gen 5
- Erhöhte Sperrspannungsfestigkeit auf 650V
- Niederinduktives Design
- Niedrige Schaltverluste

Electrical Features
- CoolSiC (TM) Schottky diode gen 5
- Increased blocking voltage capability up to 650V
- Low inductive design
- Low switching losses

Mechanische Eigenschaften
- Al_2O_3 Substrat mit kleinem thermischen Widerstand
- Integrierter NTC Temperatur Sensor
- Lötverbindungstechnik
- Thermisches Interface Material bereits aufgetragen

Mechanical Features
- Al_2O_3 substrate with low thermal resistance
- Integrated NTC temperature sensor
- Solder contact technology
- Pre-applied Thermal Interface Material

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,Wechselrichter / IGBT,Inverter

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}	50	A
Kollektor-Dauergleichstrom Continuous DC collector current	T_H = 100°C, $T_{vj\,max}$ = 175°C T_H = 25°C, $T_{vj\,max}$ = 175°C	$I_{C\,nom}$ I_C	25 40	A 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 = 25 A, V_{GE} = 15 V T_{vj} = 25°C I_C = 25 A, V_{GE} = 15 V T_{vj} = 125°C I_C = 25 A, V_{GE} = 15 V T_{vj} = 150°C	$V_{CE\,sat}$		1,35 1,40 1,45	1,55	V V V
Gate-Schwellenspannung Gate threshold voltage	I_C = 0,50 mA, V_{CE} = V_{GE}, T_{vj} = 25°C	V_{GEth}	3,25	4,00	4,75	V
Gateladung Gate charge	V_{GE} = -15 V ... +15 V, V_{CE} = 400V	Q_G		0,235		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}		2,80		nF
Rückwirkungskapazität Reverse transfer capacitance	f = 1 MHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V	C_{res}		0,013		nF
Kollektor-Emitter-Reststrom Collector-emitter cut-off current	V_{CE} = 650 V, V_{GE} = 0 V, T_{vj} = 25°C	I_{CES}		0,04		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} = 400 V T_{vj} = 25°C V_{GE} = ±15 V T_{vj} = 125°C R_{Gon} = 5,1 Ω T_{vj} = 150°C	$t_{d\,on}$		0,009 0,01 0,012		µs µs µs
Anstiegszeit, induktive Last Rise time, inductive load	I_C = 25 A, V_{CE} = 400 V T_{vj} = 25°C V_{GE} = ±15 V T_{vj} = 125°C R_{Gon} = 5,1 Ω T_{vj} = 150°C	t_r		0,0036 0,004 0,005		µs µs µs
Abschaltverzögerungszeit, induktive Last Turn-off delay time, inductive load	I_C = 25 A, V_{CE} = 400 V T_{vj} = 25°C V_{GE} = ±15 V T_{vj} = 125°C R_{Goff} = 5,1 Ω T_{vj} = 150°C	$t_{d\,off}$		0,008 0,009 0,01		µs µs µs
Fallzeit, induktive Last Fall time, inductive load	I_C = 25 A, V_{CE} = 400 V T_{vj} = 25°C V_{GE} = ±15 V T_{vj} = 125°C R_{Goff} = 5,1 Ω T_{vj} = 150°C	t_f		0,022 0,028 0,03		µs µs µs
Einschaltverlustenergie pro Puls Turn-on energy loss per pulse	I_C = 25 A, V_{CE} = 400 V, L_S = 25 nH T_{vj} = 25°C V_{GE} = ±15 V, di/dt = 4200 A/µs (T_{vj} = 150°C) T_{vj} = 125°C R_{Gon} = 5,1 Ω T_{vj} = 150°C	E_{on}		0,11 0,23 0,25		mJ mJ mJ
Abschaltverlustenergie pro Puls Turn-off energy loss per pulse	I_C = 25 A, V_{CE} = 400 V, L_S = 25 nH T_{vj} = 25°C V_{GE} = ±15 V, du/dt = 7500 V/µs (T_{vj} = 150°C) T_{vj} = 125°C R_{Goff} = 5,1 Ω T_{vj} = 150°C	E_{off}		0,15 0,17 0,21		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}		250		A
Wärmewiderstand, Chip bis Kühlkörper Thermal resistance, junction to heatsink	pro IGBT / per IGBT valid with IFX pre-applied thermal interface material	R_{thJH}			1,60	K/W
Temperatur im Schaltbetrieb Temperature under switching conditions		$T_{vj\,op}$	-40		150	°C