

查询"SKM600GA124D_06"供应商



SEMITRANS™ 4

Trench IGBT Modules

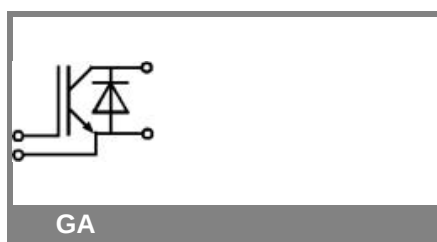
SKM 600GA124D

Features

- N channel, homogeneous Silicon structure (NPT - Non punch-through IGBT)
- Low inductance case
- Very low tail current with low temperature dependence
- High short circuit capability, self limiting to $6 \times I_{Cnom}$
- Fast and soft inverse CAL diodes
- Isolated copper baseplate using DCB Direct Copper Bonding Technology without hard mould
- Large clearance (12 mm) and creepage distances (20 mm)

Typical Applications

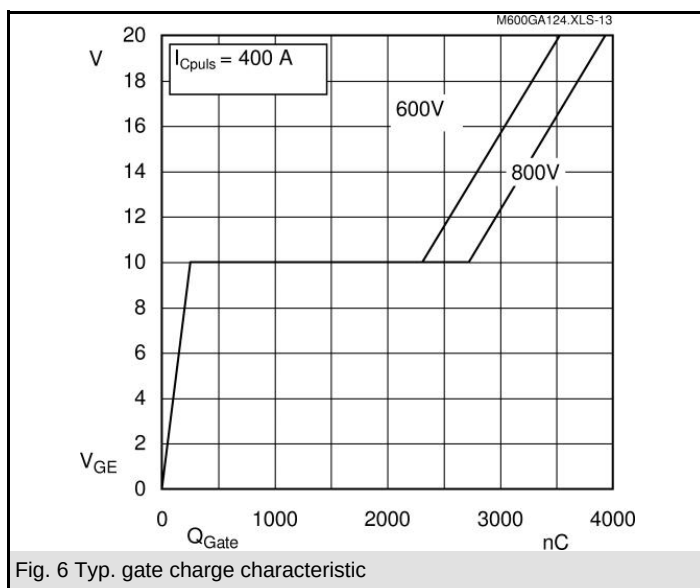
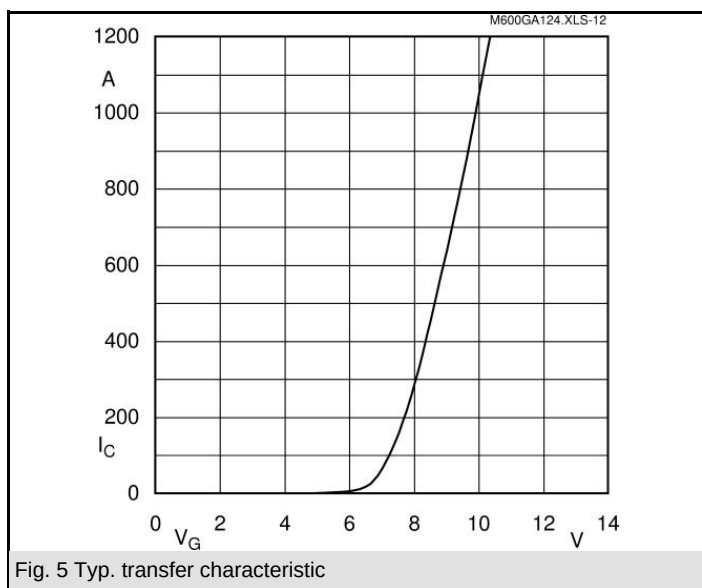
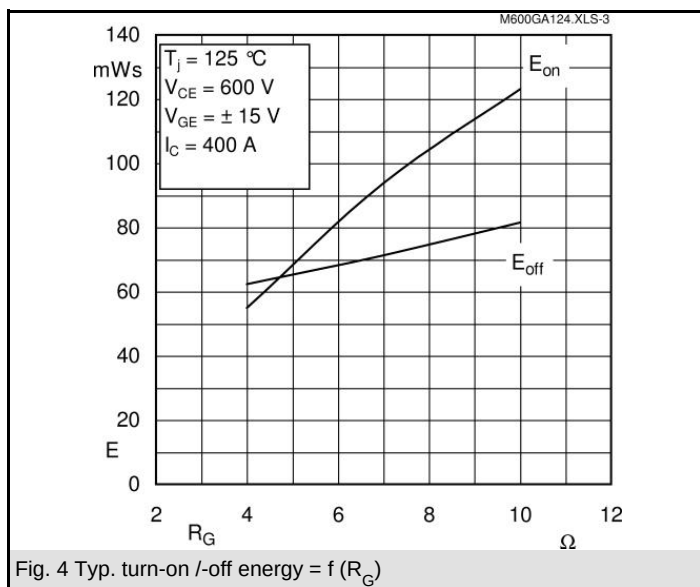
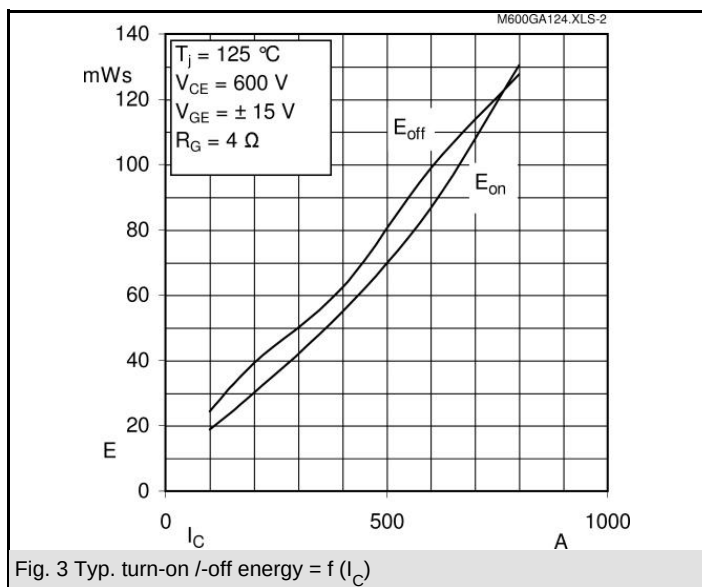
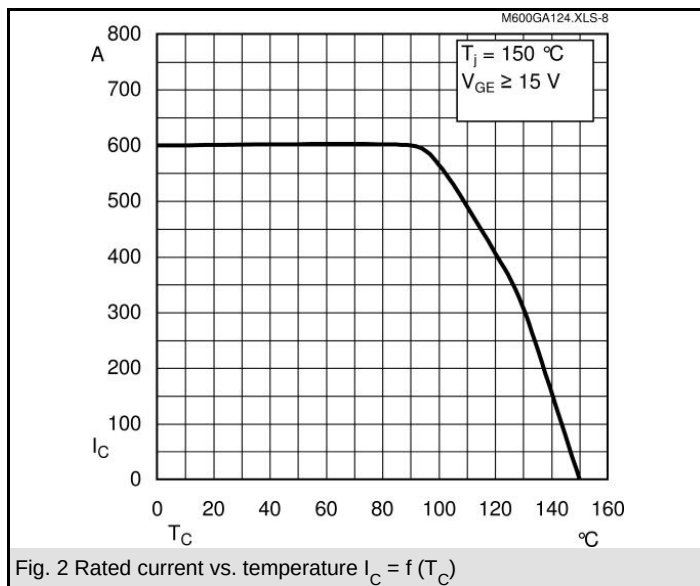
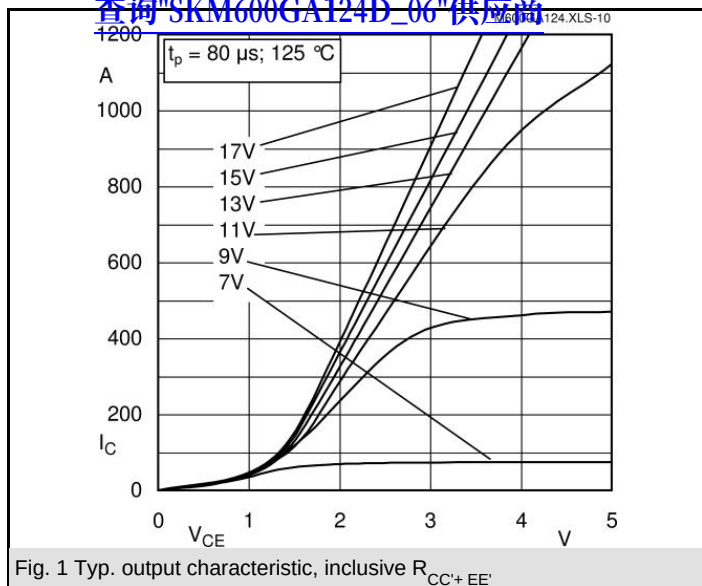
- Switching (not for linear use)
- Wind generators (low loss)
- Inverter drives (low loss)
- UPS (low loss)



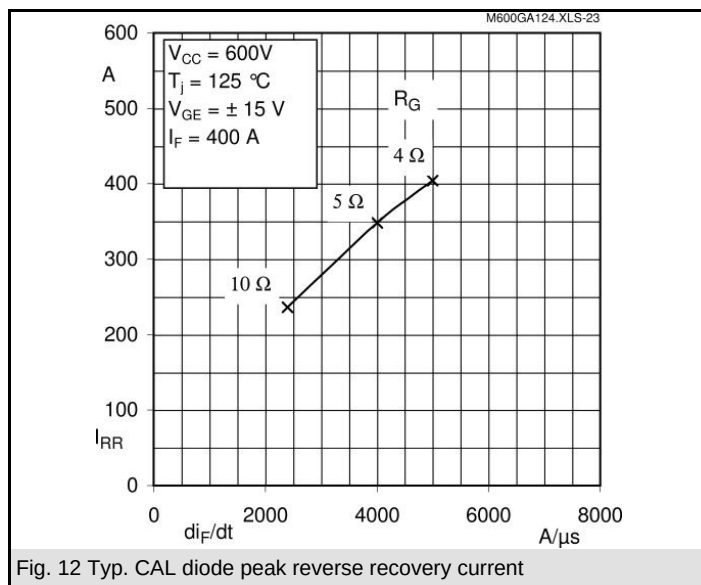
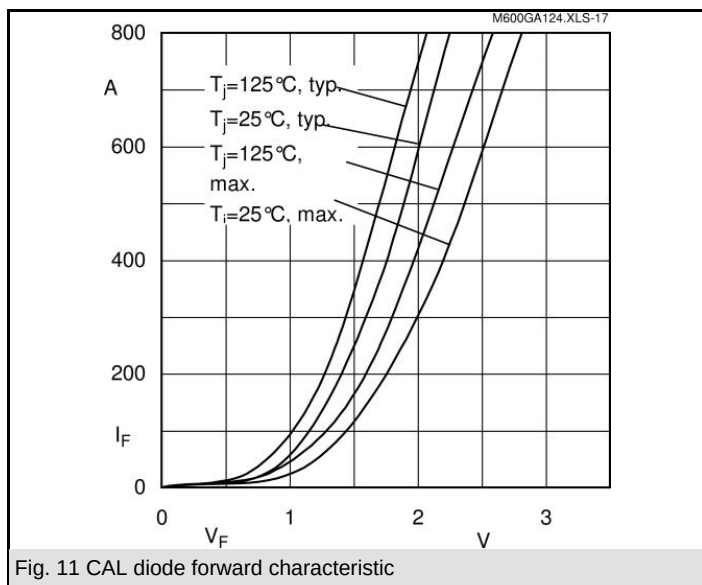
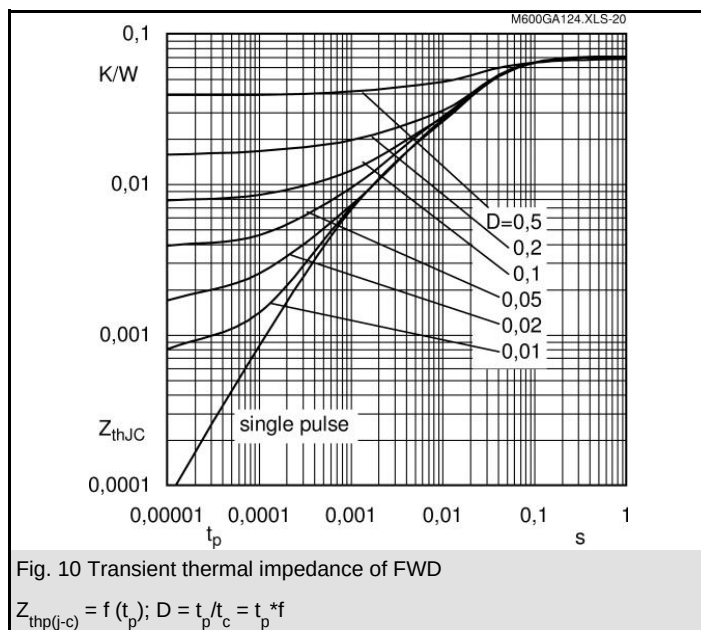
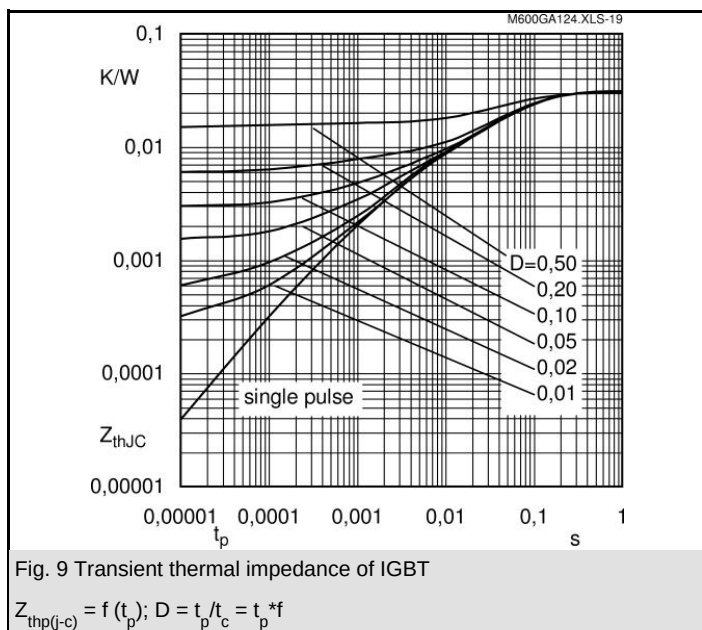
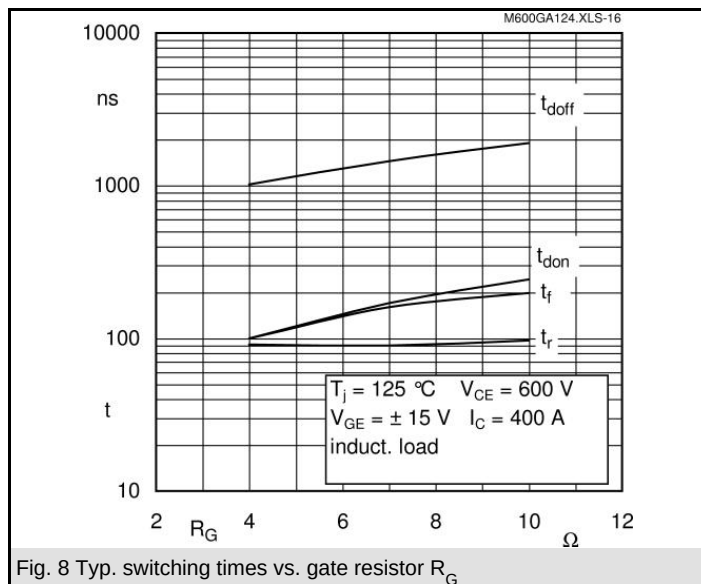
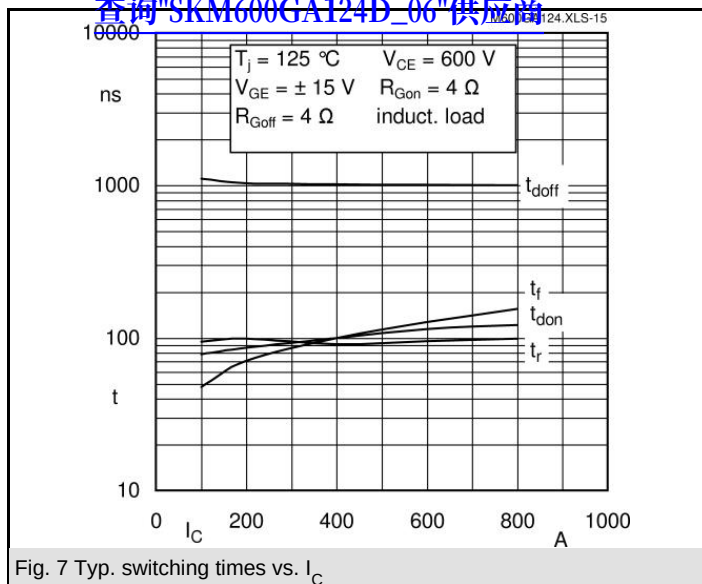
Absolute Maximum Ratings		$T_c = 25^\circ\text{C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT			
V_{CES}		1200	V
I_C	$T_c = 25 (80)^\circ\text{C}$	700 (600)	A
I_{CRM}	$t_p = 1 \text{ ms}$	800	A
V_{GES}		± 20	V
T_{vj} (T_{stg})	$T_{OPERATION} \leq T_{stg}$	- 40 ... + 150 (125)	$^\circ\text{C}$
V_{isol}	AC, 1 min.	2500	V
Inverse diode			
I_F	$T_c = 25 (80)^\circ\text{C}$	700 (500)	A
I_{FRM}	$t_p = 1 \text{ ms}$	800	A
I_{FSM}	$t_p = 10 \text{ ms}$; sin.; $T_j = 150^\circ\text{C}$	5000	A

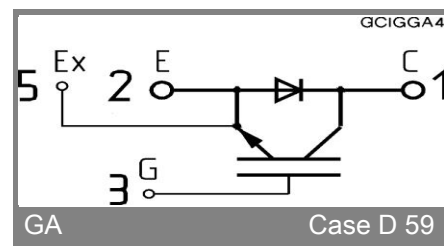
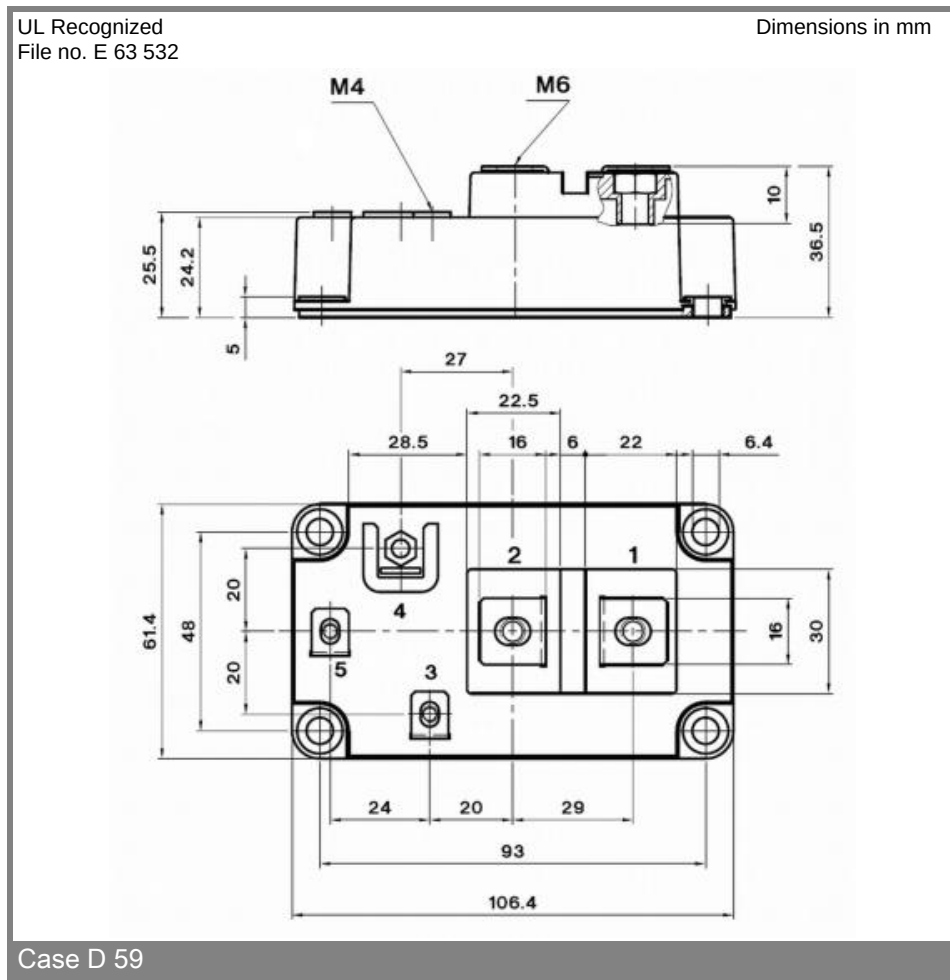
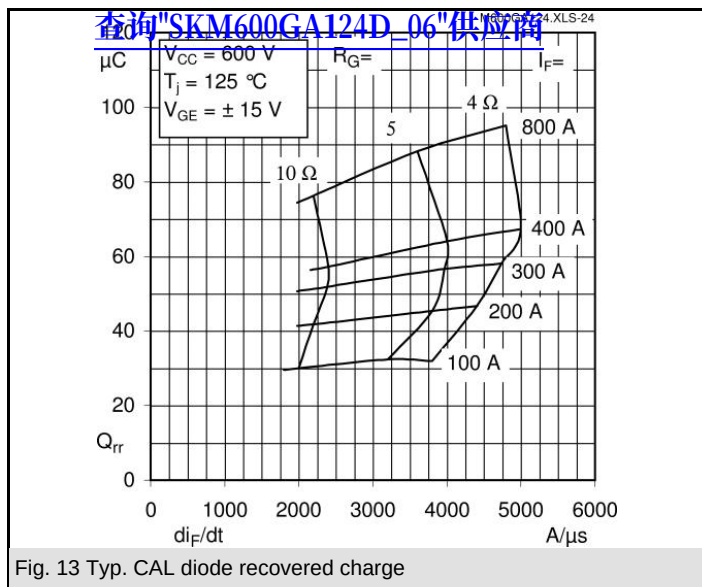
Characteristics		$T_c = 25^\circ\text{C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT					
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 24 \text{ mA}$	4,5	5,5	6,5	V
I_{CES}	$V_{GE} = 0$, $V_{CE} = V_{CES}$, $T_j = 25 (125)^\circ\text{C}$		0,2	0,6	mA
$V_{CE(TO)}$	$T_j = 25 (125)^\circ\text{C}$		1,1 (1,1)	1,25 (1,25)	V
r_{CE}	$V_{GE} = 15 \text{ V}$, $T_j = 25 (125)^\circ\text{C}$		2,25 (2,75)	2,25 (2,75)	m Ω
$V_{CE(sat)}$	$I_{Cnom} = 400 \text{ A}$, $V_{GE} = 15 \text{ V}$, chip level		2 (2,2)	2,15 (2,35)	V
C_{ies}	under following conditions		44	60	nF
C_{oes}	$V_{GE} = 0$, $V_{CE} = 25 \text{ V}$, $f = 1 \text{ MHz}$		6,6	8	nF
C_{res}			2,4	3,2	nF
L_{CE}				20	nH
$R_{CC'+EE'}$	res., terminal-chip $T_c = 25 (125)^\circ\text{C}$		0,18 (0,22)		m Ω
$t_{d(on)}$	$V_{CC} = 600 \text{ V}$, $I_{Cnom} = 400 \text{ A}$		100		ns
t_r	$R_{Gon} = R_{Goff} = 4 \Omega$, $T_j = 125^\circ\text{C}$		100		ns
$t_{d(off)}$	$V_{GE} = \pm 15 \text{ V}$		1020		ns
t_f			90		ns
$E_{on} (E_{off})$			55 (63)		mJ
Inverse diode					
$V_F = V_{EC}$	$I_{Fnom} = 400 \text{ A}$; $V_{GE} = 0 \text{ V}$; $T_j = 25 (125)^\circ\text{C}$		2 (1,7)	2,2 (2)	V
$V_{(TO)}$	$T_j = 125 ()^\circ\text{C}$			1,2	V
r_T	$T_j = 125 ()^\circ\text{C}$		1,5	2	m Ω
I_{RRM}	$I_{Fnom} = 400 \text{ A}$; $T_j = 125 ()^\circ\text{C}$		400		A
Q_{rr}	$di/dt = 4000 \text{ A}/\mu\text{s}$		58		μC
E_{rr}	$V_{GE} = 0 \text{ V}$		22		mJ
Thermal characteristics					
$R_{th(j-c)}$	per IGBT			0,03	K/W
$R_{th(j-c)D}$	per Inverse Diode			0,07	K/W
$R_{th(c-s)}$	per module			0,038	K/W
Mechanical data					
M_s	to heatsink M6	3		5	Nm
M_t	to terminals M6(M4)	2,5 (1,1)		5 (2)	Nm
w				330	g

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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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