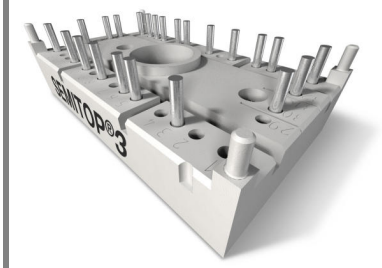
SK 150 MHK 055 T

MOSFET TRANSISTOR



SEMITOP® 3

Mosfet Module

SK 150 MHK 055 T

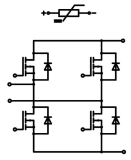
Target Data

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Trench technology
- Short internal connections and low inductance case
- Integrated PTC temperature sensor

Typical Applications*

- Low switched mode power supplies
- DC servo drives
- UPS



MHK

Absolute Maximum Ratings		T_s = 25 °C, unless otherwise specified	
Symbol	**Conditions**	**Values**	**Units**
MOSFET			
V_{DSS}		55	V
V_{GSS}		±20	V
I_D	T_s = 25 (80) °C;	240 (150)	A
I_{DM}	t_p < 1 ms; T_s = 25 (80) °C;	340 (250)	A
T_j		-40...+150	°C
Inverse diode			
I_F = - I_D	T_s = 25 (80) °C;	240 (150)	A
I_{FM} = - I_{DM}	t_p < 1 ms; T_s = 25 (80) °C;	340 (250)	A
T_j		-40...+150	°C
Freewheeling CAL diode			
I_F = - I_D	T_s = °C		A
T_j			°C
T_{stg}		- 40 ... + 125	°C
T_{sol}	Terminals, 10 s	260	°C
V_{isol}	AC, 1 min (1s)	2500 / 3000	V

Characteristics		T_s = 25 °C, unless otherwise specified			
Symbol	**Conditions**	**min.**	**typ.**	**max.**	**Units**
MOSFET					
$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = 0,25 mA	55			V
$V_{GS(th)}$	V_{GS} = V_{DS}; I_D = 0,25 mA	2,5	3,2	4,5	V
I_{DSS}	V_{GS} = 0 V; V_{DS} = V_{DSS}; T_j = 25 (125) °C			1	µA
I_{GSS}	V_{GS} = ± 20V ;V_{DS} = 0 V			100	nA
$R_{DS(on)}$	I_D = 5 A; V_{GS} = 10 V; T_j = 25 °C		1,1	1,5	mΩ
$R_{DS(on)}$	I_D = 5 A; V_{GS} = 10 V; T_j = 125 °C		1,9	2,6	mΩ
C_{CHC}	per MOSFET				pF
C_{iss}	under following conditions:		21,2		nF
C_{oss}	V_{GS} = 0 V; V_{DS} = 25 V; f = 1 MHz		3,3		nF
C_{rss}			1,6		nF
L_{DS}					nH
$t_{d(on)}$	under following conditions:		40		ns
t_r	V_{DD} = 30 V; V_{GS} = 10 V; I_D = 70 A		180		ns
$t_{d(off)}$	R_G = 2,5 Ω		70		ns
t_f			110		ns
$R_{th(j-s)}$	per MOSFET (per module)			0,8	K/W
Inverse diode					
V_{SD}	I_F = 5 A; V_{GS} = 0 V; T_j = 25 °C		0,7	1,5	V
I_{RRM}	under following conditions:		8		A
Q_{rr}	I_F = 150 A; T_{vj} = 25 °C; R_G = 2,5 Ω		0,35		µC
t_{rr}	V_R = 30 A; di/dt = 100 A/µs		80		ns
Free-wheeling diode					
V_F	I_F = A; V_{GS} = V				V
I_{RRM}	under following conditions:				A
Q_{rr}	I_F = A; T_{vj} = °C				µC
t_{rr}	V_r = A; di/dt = A/µs				ns
Mechanical data					
M1	mounting torque			2,5	Nm
w			30		g
Case	SEMITOP® 3		T 64		

© by SEMIKRON

Downloaded from Elcodis.com electronic components distributor

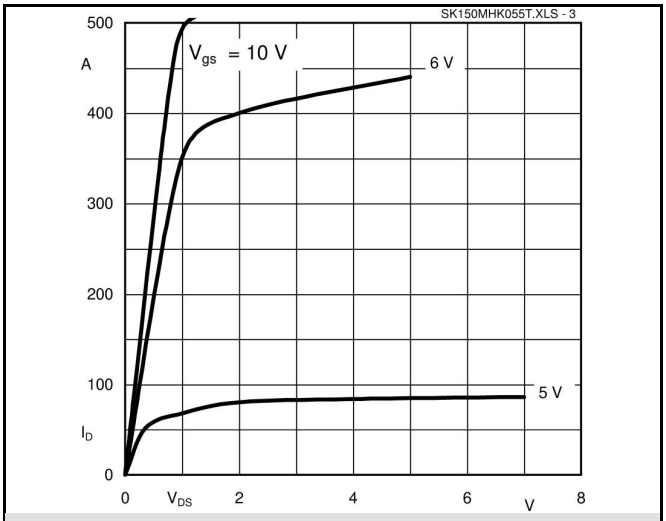


Fig. 3 Output characteristic, t_p = 80 µs, T_j = 25 °C

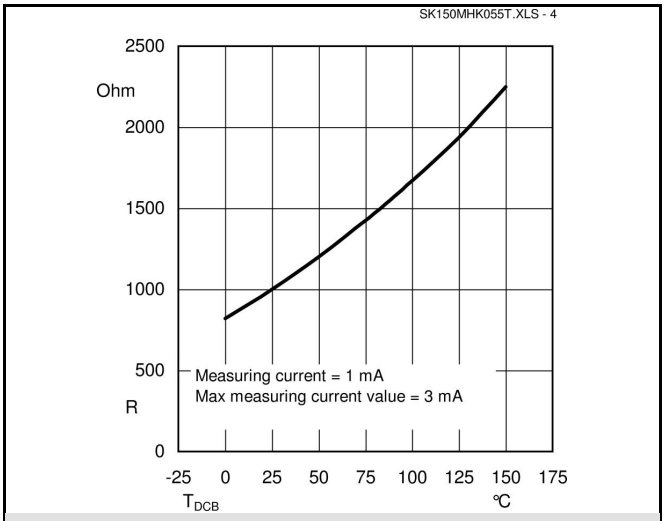


Fig. 4 Typ. PTC Characteristic

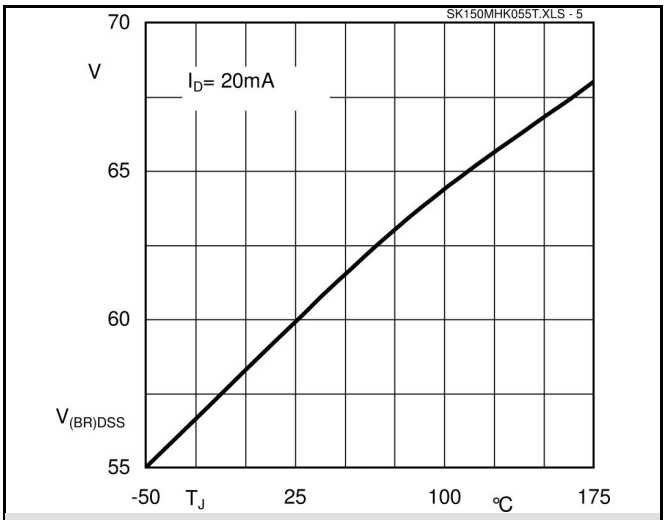


Fig. 5 Breakdown voltage vs. temperature

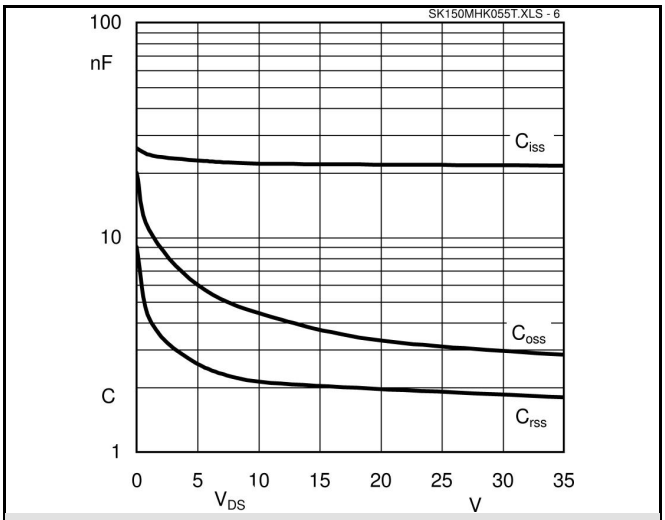


Fig. 6 Typ. capacitancies vs. drain-source voltage

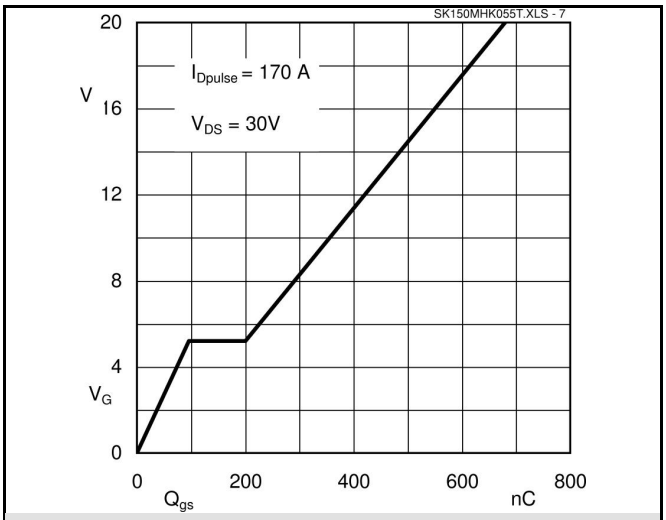


Fig. 7 Gate charge characteristic

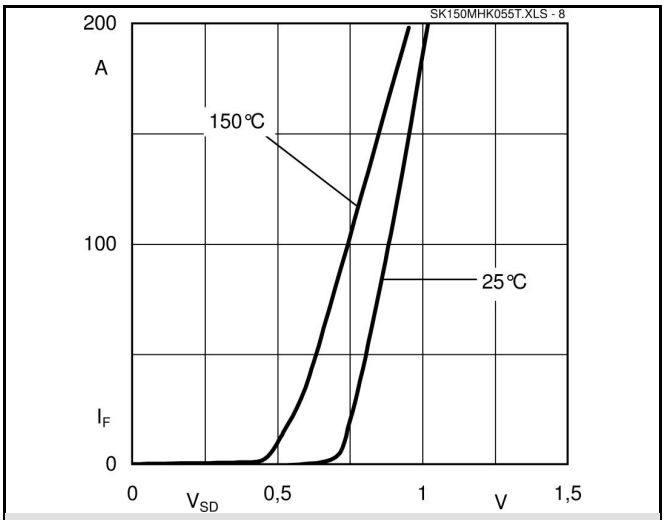
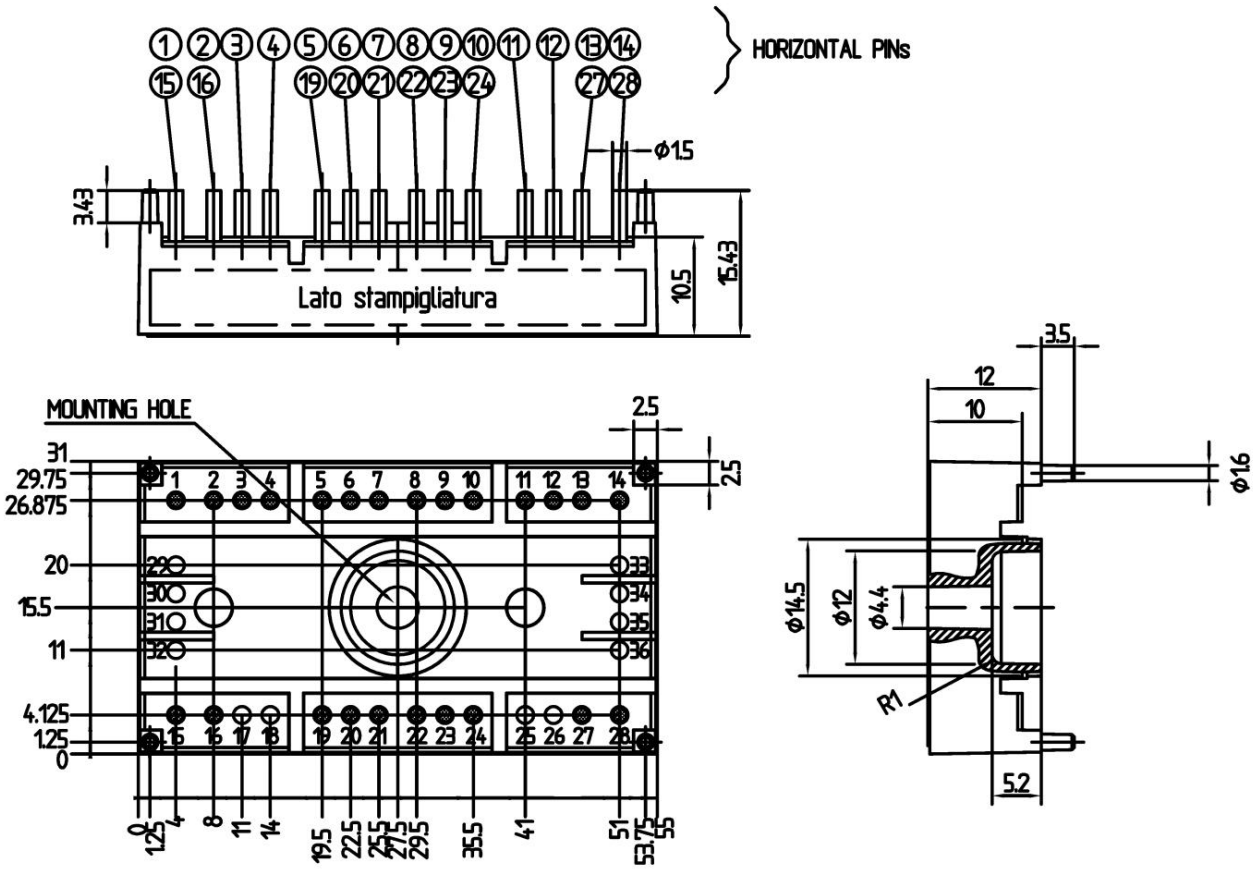


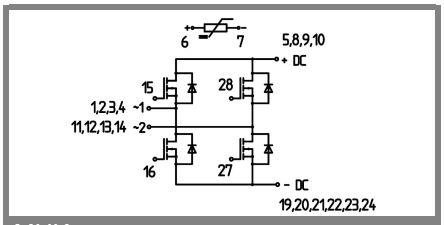
Fig. 8 Diode forward characteristic, t_p = 80 µs

Downloaded from Elcodis.com electronic components distributor

Dimensions in mm



Case T64



MHK

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

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

 © by SEMIKRON

Downloaded from Elcodis.com electronic components distributor