



SEMIPACK® 2

Rectifier Diode Modules

SKKE60S12

Features*

- Heat transfer through aluminium oxide ceramic insulated metal baseplate
- Hard soldered joints for high reliability
- SiC Schottky diode
- UL recognized, file no. E63532

Typical Applications

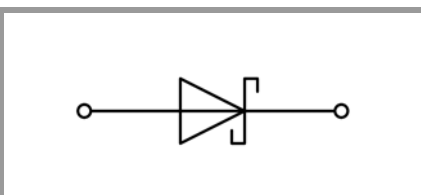
- Uncontrollable rectifiers for DC/DC converters
- High frequency rectifier applications

Remarks

Recommended $T_{j,op} = -40 \dots +150^\circ\text{C}$

Absolute Maximum Ratings				
Symbol	Conditions		Values	Unit
Diode				
I_{FAV}	sin. 180°	$T_c = 85^\circ\text{C}$	64	A
	$T_j = 175^\circ\text{C}$	$T_c = 100^\circ\text{C}$	58	A
I_{FRM}			168	A
I_{FM}	PW = 10µs, square, $T_j = 25^\circ\text{C}$		1116	A
I_{FSM}	10 ms	$T_j = 25^\circ\text{C}$	272	A
		$T_j = 150^\circ\text{C}$	207	A
i^2t	10 ms	$T_j = 25^\circ\text{C}$	369	A ² s
		$T_j = 150^\circ\text{C}$	214	A ² s
V_{RSM}			1200	V
V_{RRM}			1200	V
T_j			-40 ... 175	°C
Module				
T_{stg}			-40 ... 125	°C
V_{isol}	a.c.; 50 Hz; r.m.s.	1 min	3000	V
		1 s	3600	V

Characteristics						
Symbol	Conditions		min.	typ.	max.	Unit
Diode						
V_F	$I_F = 80\text{ A}$	$T_j = 25^\circ\text{C}$		1.40	1.60	V
		$T_j = 150^\circ\text{C}$		1.79	2.10	V
V_{F0}	chiplevel	$T_j = 25^\circ\text{C}$		0.95	1.05	V
		$T_j = 150^\circ\text{C}$		0.83	0.90	V
r_F	chiplevel	$T_j = 25^\circ\text{C}$		5.6	6.9	mΩ
		$T_j = 150^\circ\text{C}$		12	15	mΩ
I_R	$V_R = V_{RRM}, T_j = 25^\circ\text{C}$				1.8	mA
C_j	f = 1 MHz, $V_R = 800\text{ V}, T_j = 25^\circ\text{C}$			0.340		nF
Q_c	$V_R = 800\text{ V}, di/dt = 500\text{ A}/\mu\text{s}, T_j = 25^\circ\text{C}$			0.26		µC
$R_{th(j-c)}$	module				0.4	K/W
Module						
$R_{th(c-s)}$	module			0.12		K/W
$R_{CC'+EE'}$	measured between terminal 3 and 1	$T_c = 25^\circ\text{C}$		0.3		mΩ
		$T_c = 125^\circ\text{C}$		0.6		mΩ
M_s	to heatsink M5		4.25		5.75	Nm
M_t	to terminals M6		4.25		5.75	Nm
a					5 * 9.81	m/s ²
w				165		g



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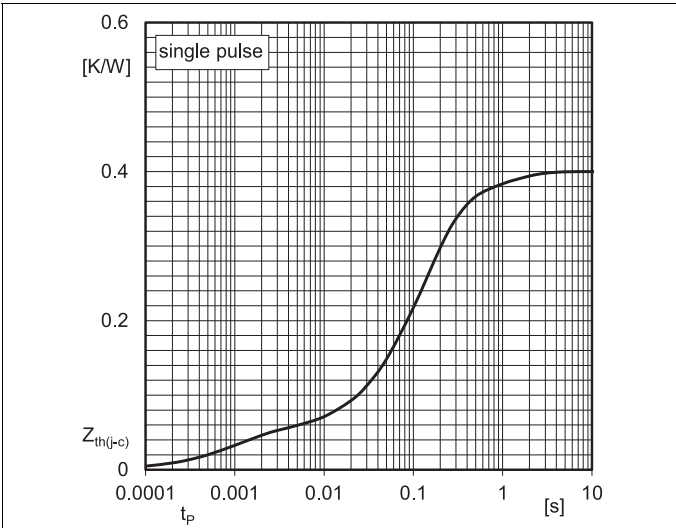


Fig. 1: Transient thermal impedance vs. time

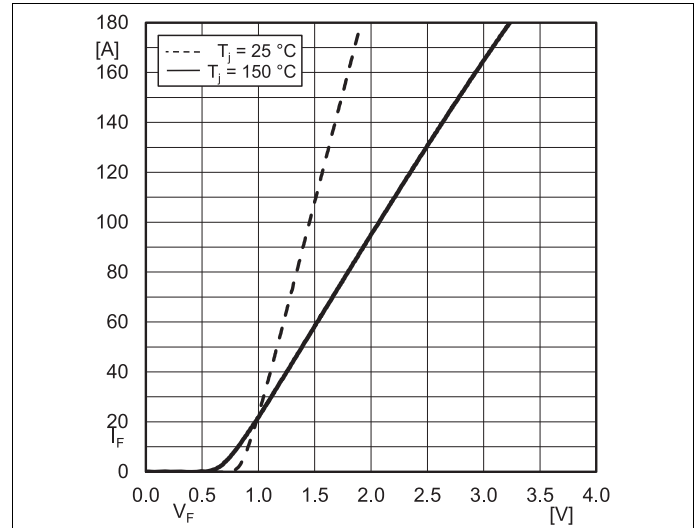


Fig. 2: Typ. forward characteristic (chipl level)

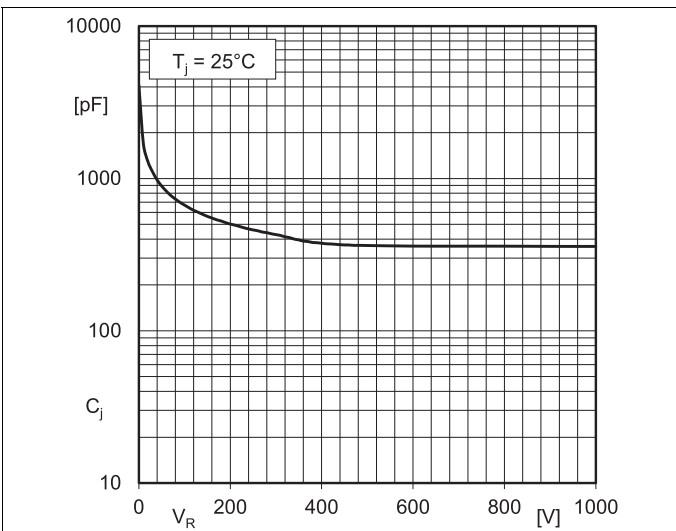
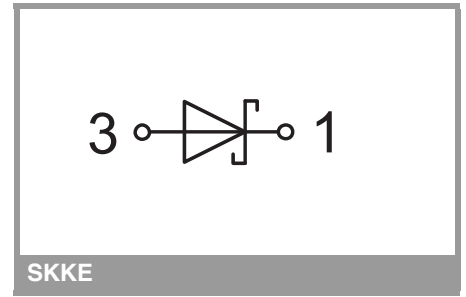
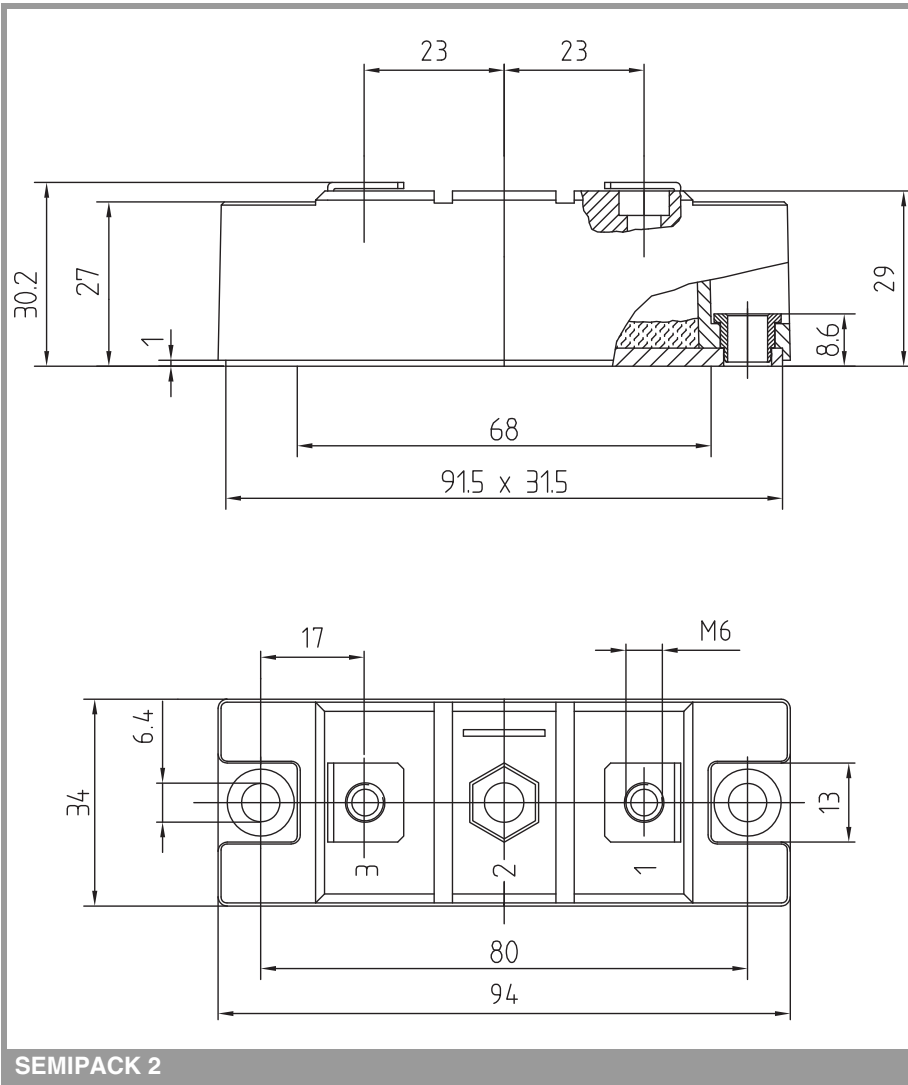


Fig. 3: Typ. capacitance-voltage charact. (1 MHz)



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

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