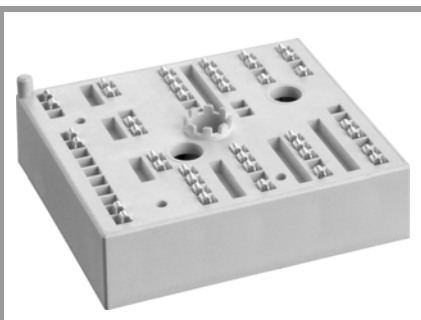


SKiiP 26ACM12V17



MiniSKiiP® 2

SKiiP 26ACM12V17

Target Data

Features

- SiC MOSFETs
- SiC Schottky Diodes
- Highly reliable spring contacts for electrical connections

Remarks

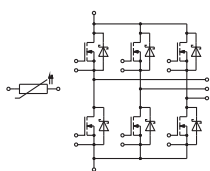
- Max. case temperature limited to $T_C = 125^\circ\text{C}$
- Recommended $T_{j,op} = -40 \dots +150^\circ\text{C}$ for Inverse Diode, $T_{j,op} = -40 \dots +125^\circ\text{C}$ for MOSFET

Absolute Maximum Ratings				
Symbol	Conditions	Values	Unit	
MOSFET				
V_{DS}		1200	V	
I_D	$T_j = 175^\circ\text{C}$	$T_s = 25^\circ\text{C}$	75	A
		$T_s = 70^\circ\text{C}$	62	A
I_{DM}		320	A	
V_{GS}		-6 ... 22	V	
T_j		-40 ... 175	$^\circ\text{C}$	
Integrated MOS-diode				
I_{FM}			A	

Absolute Maximum Ratings				
Symbol	Conditions	Values	Unit	
Diode 1				
V_{RRM}	$T_j = 25^\circ\text{C}$	1200	V	
I_F	$T_j = 175^\circ\text{C}$	$T_s = 25^\circ\text{C}$	62	A
		$T_s = 70^\circ\text{C}$	50	A
I_{Fnom}		50	A	
I_{FRM}		164	A	
I_{FSM}	8.3 ms sin 180°	$T_j = 25^\circ\text{C}$	160	A
		$T_j = 150^\circ\text{C}$	126	A
T_j		-40 ... 175	$^\circ\text{C}$	

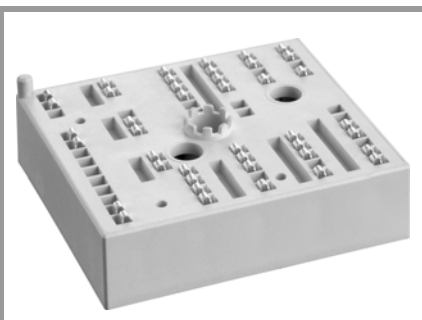
Absolute Maximum Ratings			
Symbol	Conditions	Values	Unit
Module			
$I_{t(RMS)}$	$T_{terminal} = 80^\circ\text{C}$, 20 A per spring	100	A
T_{stg}		-40 ... 125	$^\circ\text{C}$
V_{isol}	AC sinus 50 Hz, $t = 1$ min	2500	V

Characteristics					
Symbol	Conditions	min.	typ.	max.	Unit
Diode 1					
$V_F = V_{EC}$	$I_F = 50$ A $V_{GE} = 0$ V chipelevel	$T_j = 25^\circ\text{C}$	1.40	1.60	V
		$T_j = 150^\circ\text{C}$	1.80	2.20	V
V_{F0}	chipelevel	$T_j = 25^\circ\text{C}$	0.95	1.05	V
		$T_j = 150^\circ\text{C}$	0.80	0.90	V
r_F	chipelevel	$T_j = 25^\circ\text{C}$	9.0	11	m Ω
		$T_j = 150^\circ\text{C}$	20	26	m Ω
Q_c	$V_R = 800$ V, $T_j = 25^\circ\text{C}$		0.167		μC
$R_{th(j-s)}$	per Diode, $\lambda_{paste} = 0.8$ W/(K*m)		0.9		K/W



ACM

SKiiP 26ACM12V17



MiniSKiiP® 2

SKiiP 26ACM12V17

Target Data

Features

- SiC MOSFETs
- SiC Schottky Diodes
- Highly reliable spring contacts for electrical connections

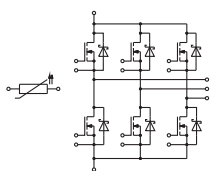
Remarks

- Max. case temperature limited to $T_C = 125^\circ\text{C}$
- Recommended $T_{j,op} = -40 \dots +150^\circ\text{C}$ for Inverse Diode, $T_{j,op} = -40 \dots +125^\circ\text{C}$ for MOSFET

Characteristics					
Symbol	Conditions	min.	typ.	max.	Unit
MOSFET					
$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 2\text{ mA}$	1200			V
$V_{GS(th)}$	$V_{DS} = V_{GS}$	1.6		4	V
	$I_D = 17.8\text{ mA}$				V
I_{DSS}	$V_{GS} = 0\text{ V}, V_{DS} = 1200, T_j = 25^\circ\text{C}$			1	mA
I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = 22\text{ V}$			200	nA
$R_{DS(on)}$	$V_{GS} = 18\text{ V}$		23	28	$T_j = 25^\circ\text{C}$
	$I_D = 22\text{ A}$				$T_j = 150^\circ\text{C}$
C_{iss}	$V_{GS} = 0\text{ V}, V_{DS} = 800\text{ V}, f = 1\text{ MHz}$		8620		pF
C_{oss}	$V_{GS} = 0\text{ V}, V_{DS} = 800\text{ V}, f = 1\text{ MHz}$		274		pF
C_{rss}	$V_{GS} = 0\text{ V}, V_{DS} = 800\text{ V}, f = 1\text{ MHz}$		38		pF
R_{Gint}	$T_j = 25^\circ\text{C}$		2.4		Ω
Q_G	$V_{GS} = 18\text{ V}$		378		nC
$t_{d(on)}$	$V_{DD} = 600\text{ V}$				$T_j = 150^\circ\text{C}$
$t_{d(off)}$					$T_j = 150^\circ\text{C}$
t_r	$I_D = 85\text{ A}$				$T_j = 150^\circ\text{C}$
t_f					$T_j = 150^\circ\text{C}$
E_{on}				3.3	mJ
E_{off}				1.4	mJ
$R_{th(j-s)}$	per MOSFET, $\lambda_{paste} = 0.8\text{ W}/(\text{K}\cdot\text{m})$		0.6		K/W

Characteristics					
Symbol	Conditions	min.	typ.	max.	Unit
Module					
M_s	to heat sink	2		2.5	Nm
w	weight		55		g

Characteristics					
Symbol	Conditions	min.	typ.	max.	Unit
Temperature Sensor					
R_{100}	$T_r = 100^\circ\text{C}$ ($R_{25} = 1000\Omega$)		1670 \pm 3%		Ω
$R(T)$	$R(T) = 1000\Omega [1 + A(T - 25^\circ\text{C}) + B(T - 25^\circ\text{C})^2]$ $A = 7.635 \cdot 10^{-3} \text{ }^\circ\text{C}^{-1}$, $B = 1.731 \cdot 10^{-5} \text{ }^\circ\text{C}^{-2}$				



ACM

