

# SKN 140F



**Stud Diode**

## Fast Recovery Rectifier Diode

**SKN 140F**

**SKR 140F**

### Features

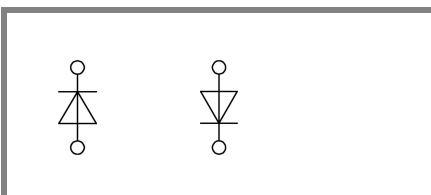
- Small recovered charge
- Soft recovery
- Hermetic metal case with glass insulator
- Threaded stud M12
- SKN: anode to stud;  
SKR: cathode to stud

### Typical Applications\*

- Inverse diode for GTO and asymmetric thyristor
- Inverters and choppers
- A.C. motor control
- Uninterruptible power supplies (UPS)

$V_{RSM}$ V	$V_{RRM}$ V	$I_{FRMS} = 260$ A (maximum value for continuous operation) $I_{FAV} = 140$ A (sin. 180; 1000 Hz; $T_c = 100$ °C)	
1200	1200	SKN 140F12	SKR 140F12
1400	1400	SKN 140F14	SKR 140F14
1500	1500	SKN 140F15	SKR 140F15
1700	1700	SKN 140F17	SKR 140F17

Symbol	Conditions	Values	Units
$I_{FAV}$	sin. 180; $T_c = 85$ (100) °C	168 (140)	A
$I_{FAV}$	K1,1F; $T_a = 35$ °C; sin. 180; 1000 Hz	114	A
$I_{FSM}$	$T_{vj} = 25$ °C; 10 ms	2500	A
	$T_{vj} = 150$ °C; 10 ms	2100	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	31000	A <sup>2</sup> s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	22000	A <sup>2</sup> s
$V_F$	$T_{vj} = 25$ °C; $I_F = 300$ A	max. 1,8	V
$V_{(TO)}$	$T_{vj} = 150$ °C	max. 1,1	V
$r_T$	$T_{vj} = 150$ °C	max. 2	mΩ
$I_{RD}$	$T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$	max. 1	mA
$I_{RD}$	$T_{vj} = 150$ °C; $V_{RD} = V_{RRM}$	max. 100	mA
$Q_{rr}$	$T_{vj} = 150$ °C; $I_F = 100$ A,	90	μC
$I_{RM}$	$-di/dt = 100$ A/μs, $V_R = 400$ V	90	A
$t_{rr}$		2000	ns
$E_{rr}$		-	mJ
$R_{th(j-c)}$		0,2	K/W
$R_{th(c-s)}$		0,08	K/W
$T_{vj}$		- 40 ... + 150	°C
$T_{stg}$		- 55 ... + 150	°C
$V_{isol}$		-	V~
$M_s$	to heatsink	10	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	100	g
Case		E 14	



**SKN**

**SKR**

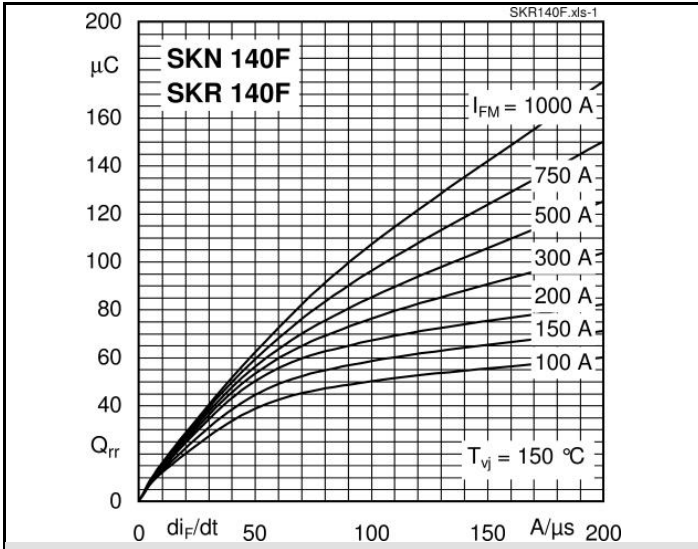


Fig. 1 Typ. recovery charge vs. current decrease

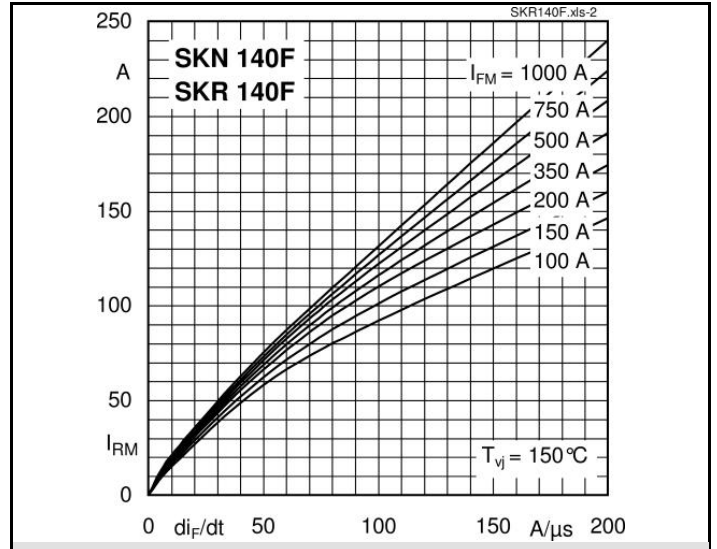


Fig. 2 Peak recovery current vs. current decrease

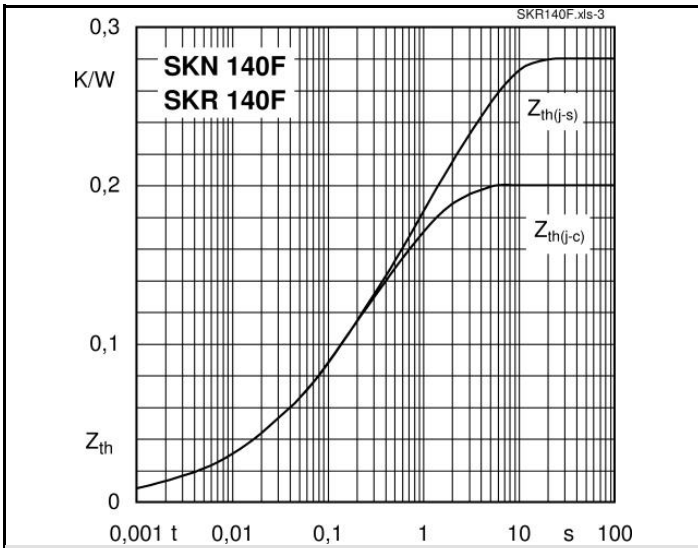


Fig. 3 Transient thermal impedance vs. time

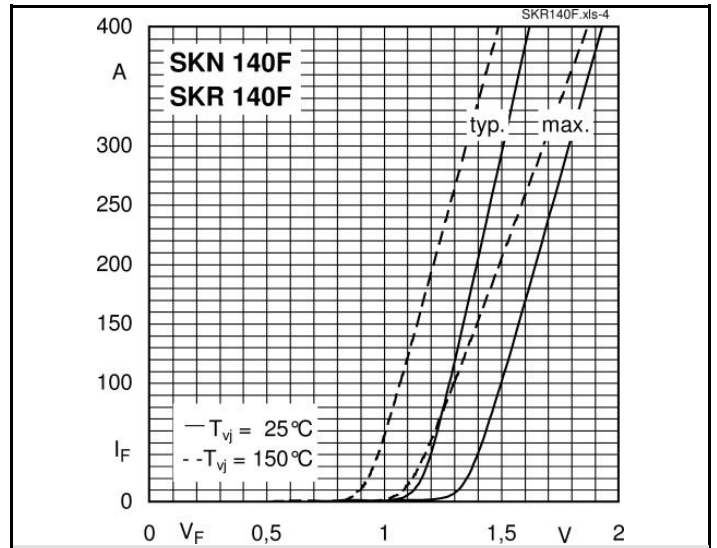


Fig. 4 Forward characteristics

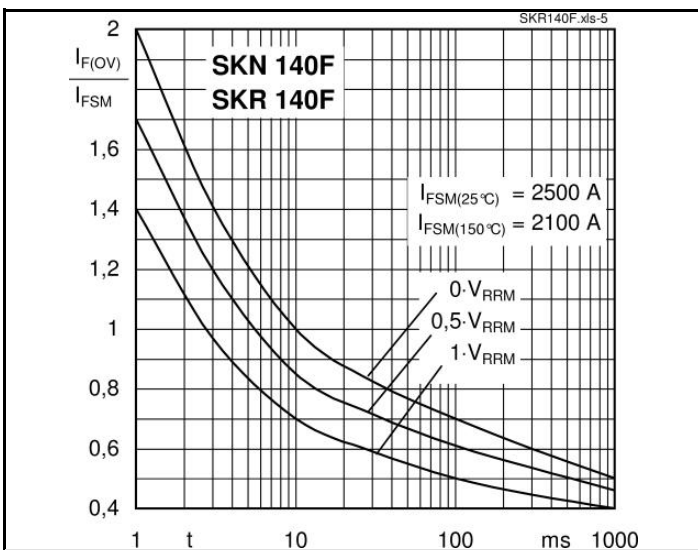
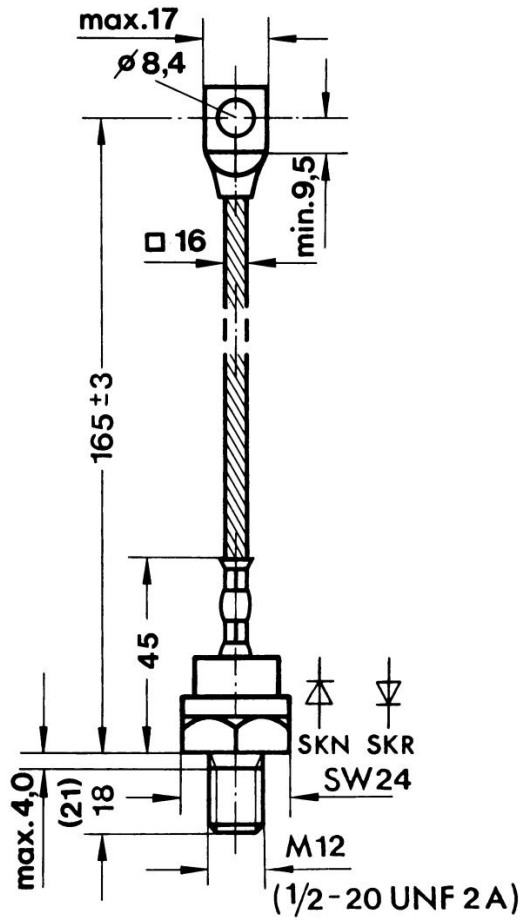


Fig. 5 Surge overload current vs. time



Case E 14 (IEC 60191: A 9 MA modified; JEDEC: DO-205 AC (DO-30) modified)

\* 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.