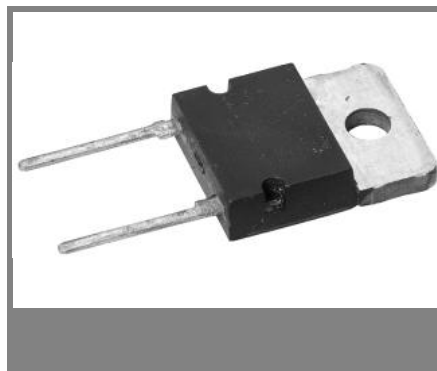




Fast Recovery Rectifier Diode

SKR 48F

Features

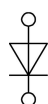
- CAL-Diode (controlled axial lifetime technology), patent no. DE 431044
- Very short recovery time
- Soft recovery under all conditions
- Up to 1200 V reverse voltage
- Epoxy meets UL 94V-0 flammability classification

Typical Applications

- Inverse diode for power transistor
- Inverter
- Power supply
- Snubber and clamping diode

V_{RSM} V	V_{RRM} V	$I_{FRMS} = 72$ A (maximum value for continuous operation) $I_{FAV} = 48$ A (sin. 180; 50 Hz; $T_c = 85$ °C)		
1000	1000	SKR 48F10		
1200	1200	SKR 48F12		

Symbol	Conditions	Values	Units
I_{FAV}	sin. 180; $T_c = 85$ (100) °C	48 (41)	A
I_{FSM}	$T_{vj} = 25$ °C; 10 ms	500	A
	$T_{vj} = 150$ °C; 10 ms	450	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms	1250	A²s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	1000	A²s
V_F	$T_{vj} = 25$ °C; $I_F = 50$ A	max. 2,5	V
$V_{(TO)}$	$T_{vj} = 150$ °C	max. 1,2	V
r_T	$T_{vj} = 150$ °C	max. 22	mΩ
I_{RD}	$T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$	max. 0,2	mA
I_{RD}	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}$	max. 4	mA
Q_{rr}	$T_{vj} = 125$ °C, $I_F = 50$ A,	8	μC
I_{RM}	$-di/dt = 800$ A/μs, $V_R = 600$ V	35	A
t_{rr}		420	ns
E_{rr}		-	mJ
$R_{th(j-c)}$		0,35	K/W
$R_{th(c-s)}$		0,25	K/W
T_{vj}		- 40 ... 150	°C
T_{stg}		- 40 ... 150	°C
V_{isol}		-	V~
M_s	to heatsink	0,7 ... 1	Nm
a			m/s²
m	approx.	5	g
Case		E 40	



SKR

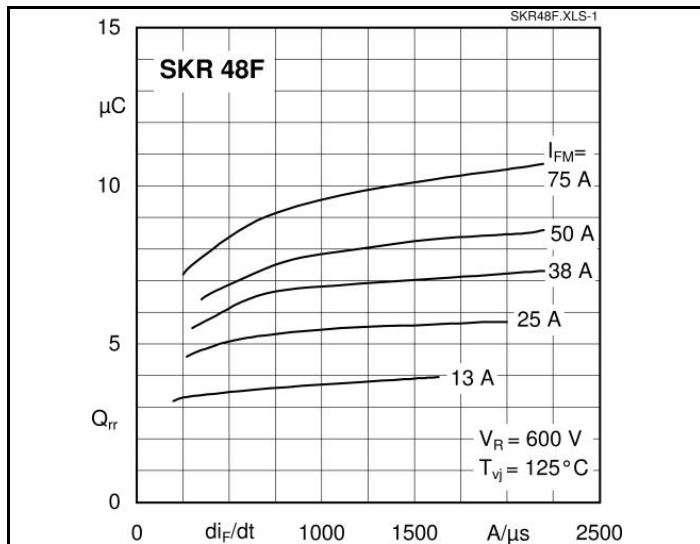


Fig. 1 Typ. recovery charge vs. current decrease

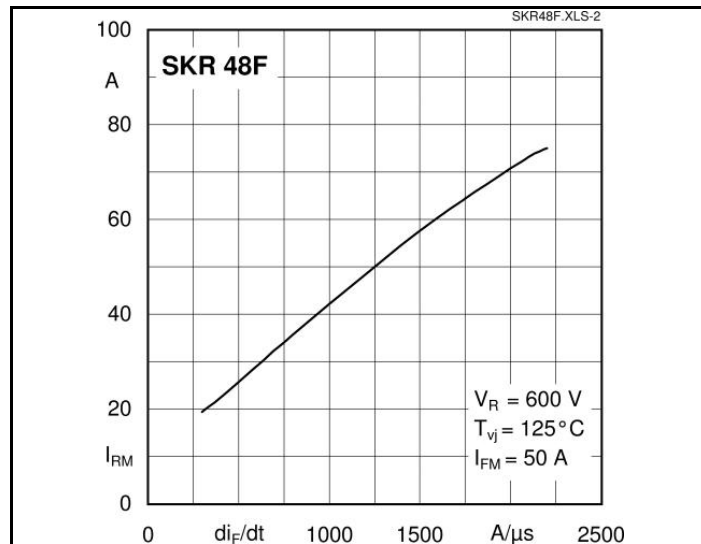


Fig. 2 Peak recovery current vs. current decrease

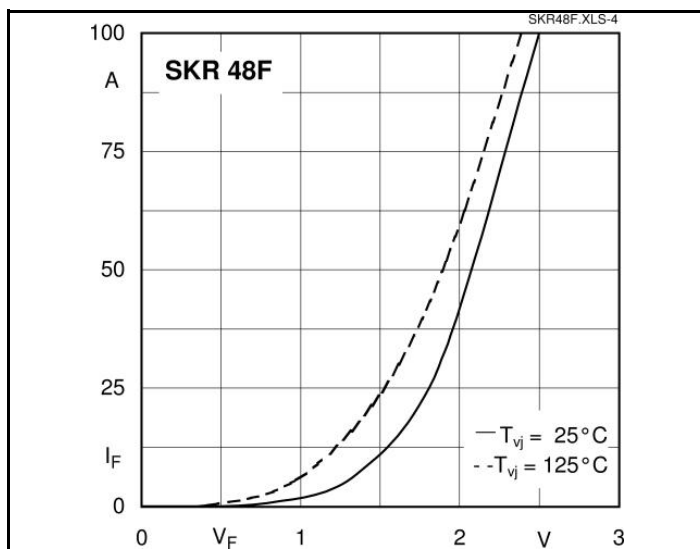


Fig. 4 Forward characteristics

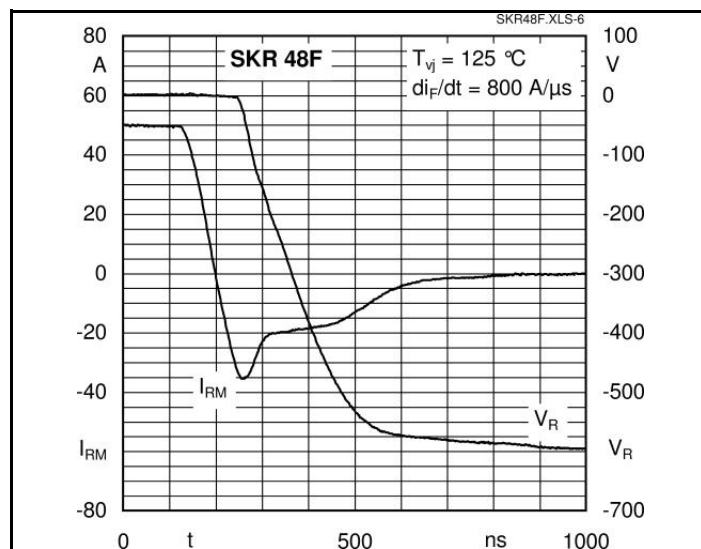
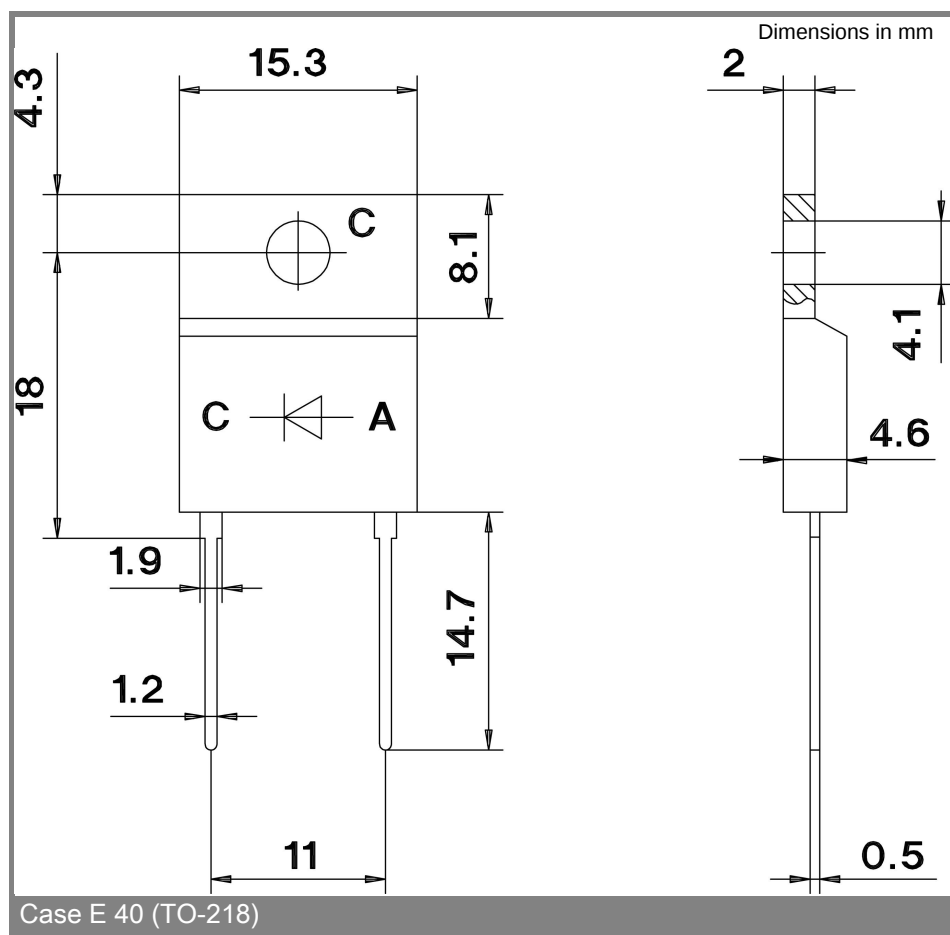


Fig. 6 Typ. reverse recovery characteristics



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