DATA SHEET

NEC

MOS FIELD EFFECT TRANSISTOR
2SK3116

SWITCHING
N-CHANNEL POWER MOS FET

DESCRIPTION

The 2SK3116 is N-channel DMOS FET device that features a low gate charge and excellent switching characteristics, and designed for high voltage applications such as switching power supply, AC adapter.

ORDERING INFORMATION

PART NUMBER	PACKAGE
2SK3116	TO-220AB
2SK3116-S	TO-262
2SK3116-ZJ	TO-263

FEATURES

- Low gate charge
  Q_G = 26 nC TYP. (I_D = 7.5 A, V_{DD} = 450 V, V_{GS} = 10 V)
- Gate voltage rating ±30 V
- Low on-state resistance
  $R_{DS(on)}$ = 1.2 Ω MAX. (V_{GS} = 10 V, I_D = 3.75 A)
- Avalanche capability ratings

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)

Drain to Source Voltage (V_{GS} = 0 V)	V_{DSS}	600	V
Gate to Source Voltage (V_{DS} = 0 V)	V_{GSS}	±30	V
Drain Current (DC)	$I_{D(DC)}$	±7.5	A
Drain Current (pulse) Note1	$I_{D(pulse)}$	±30	A
Total Power Dissipation (T_A = 25°C)	P_{T1}	1.5	W
Total Power Dissipation (T_C = 25°C)	P_{T2}	70	W
Channel Temperature	T_{ch}	150	°C
Storage Temperature	T_{stg}	–55 to +150	°C
Single Avalanche Current Note2	I_{AS}	7.5	A
Single Avalanche Energy Note2	E_{AS}	37.5	mJ
Diode Recovery dv/dt Note3	dv/dt	3.5	V/ns

Notes 1. PW ≤ 10 μs, Duty Cycle ≤ 1%

2. Starting T_{ch} = 25°C, V_{DD} = 150 V, R_G = 25 Ω , V_{GS} = 20 → 0 V

3. I_F ≤ 3.0 A, V_{clamp} = 600 V, di/dt ≤ 100 A/ μs, T_A = 25°C

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The mark ★ shows major revised points.