MOSFETs Silicon N-Channel MOS (DTMOSⅤ)

TK380P65Y

1. Applications

- Switching Voltage Regulators

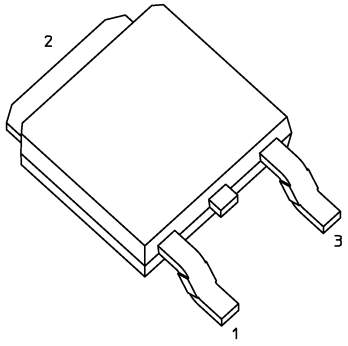
2. Features

(1) Low drain-source on-resistance: $R_{DS(ON)}$ = 0.29 Ω (typ.) by using Super Junction Structure : DTMOS

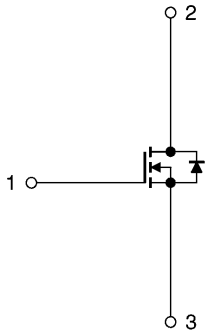
(2) Easy to control Gate switching

(3) Enhancement mode: V_{th} = 3 to 4 V (V_{DS} = 10 V, I_D = 0.36 mA)

3. Packaging and Internal Circuit



DPAK



1: Gate
2: Drain
3: Source

4. Absolute Maximum Ratings (Note) (T_a = 25 °C unless otherwise specified)

Characteristics			Symbol	Rating	Unit
Drain-source voltage			V_{DSS}	650	V
Gate-source voltage			V_{GSS}	±30	
Drain current (DC)	(T_c = 25 °C)	(Note 1)	I_D	9.7	A
Drain current (DC)	(T_c = 100 °C)	(Note 1)	I_D	6.1	A
Drain current (pulsed)	(T_c = 25 °C)	(Note 1)	I_{DP}	38.8	A
Power dissipation	(T_c = 25 °C)		P_D	80	W
Single-pulse avalanche energy		(Note 2)	E_{AS}	96	mJ
Single-pulse avalanche current			I_{AS}	2.5	A
Reverse drain current (DC)		(Note 1)	I_{DR}	9.7	
Reverse drain current (pulsed)		(Note 1)	I_{DRP}	38.8	A
Channel temperature			T_{ch}	150	°C
Storage temperature			T_{stg}	-55 to 150	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Start of commercial production
2016-12