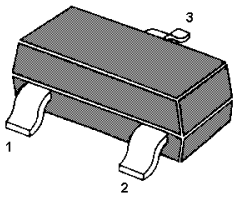
MMFTP84

P-Channel Enhancement Mode Vertical D-MOS Transistor



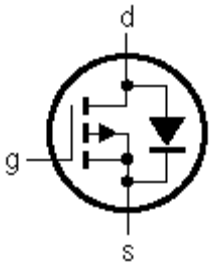
1. Gate 2. Source 3. Drain
SOT-23 Plastic Package

Features

- Low threshold voltage
- Direct interface to C-MOS, TTL, etc.
- High-speed switching
- No secondary breakdown

Applications

- Line current interrupter in telephone sets
- Relay, high speed and line transformer drivers



Caution

- The device is supplied in an antistatic package
- The gate-source input must be protected against static discharge during transport or handling

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	50	V
Gate-Source Voltage	V_{GSO}	± 20	V
Drain Current	$-I_D$	130	mA
Peak Drain Current	$-I_{DM}$	520	mA
Total Power Dissipation at $T_a \leq 25\ ^oC$	P_{tot}	250 [1)]	mW
Operating Junction Temperature	T_j	150	^oC
Storage Temperature	T_{stg}	- 65 to + 150	^oC

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance from Juntion to Ambient	R_{thj-a}	500 [1)]	K/W

[1)] Device mounted on a printed-circuit board.

Characteristics at T_j = 25 °C unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $-I_D$ = 10 µA	$-V_{(BR)DSS}$	50	-	-	V
Gate-Source Threshold Voltage at $V_{DS} = V_{GS}$, $-I_D$ = 1 mA	$-V_{GSth}$	0.8	-	2	V
Drain-Source Leakage Current at $-V_{DS}$ = 40 V at $-V_{DS}$ = 50 V at $-V_{DS}$ = 50 V, T_j = 125 °C	$-I_{DSS}$	- - -	- - -	100 10 60	nA µA µA
Gate Leakage Current at V_{GS} = ± 20 V	I_{GSS}	-	-	± 10	nA
Drain-Source On-State Resistance at $-V_{GS}$ = 10 V, $-I_D$ = 130 mA	R_{DSon}	-	-	10	Ω
Forward Transfer admittance at $-V_{DS}$ = 25 V, $-I_D$ = 130 mA	$\lvert y_{fs} \rvert$	50	-	-	mS
Input Capacitance` at $-V_{DS}$ = 25 V, f = 1 MHz	C_{iss}	-	-	45	pF
Output Capacitance at $-V_{DS}$ = 25 V, f = 1 MHz	C_{oss}	-	-	25	pF
Reverse Transfer Capacitance at $-V_{DS}$ = 25 V, f = 1 MHz	C_{rss}	-	-	12	pF
Turn-On Time at V_{GS} = 0 to -10 V, $-V_{DD}$ = 40 V, $-I_D$ = 200 mA	t_{on}	-	3	-	ns
Turn-Off Time at V_{GS} = -10 to 0 V, $-V_{DD}$ = 40 V, $-I_D$ = 200 mA	t_{off}	-	7	-	ns