STA501A

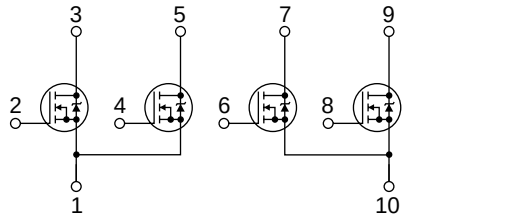
N-channel
General purpose

External dimensions Ⓓ⋯STA (10-pin)

Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
V_{DSS}	60	V
V_{GSS}	±10	V
I_D	±5	A
$I_{D(pulse)}$	±20 (PW≤100μs, Du≤1%)	A
P_T	4 (Ta=25°C)	W
	20 (Tc=25°C)	W
Tch	150	°C
Tstg	–40 to +150	°C

■Equivalent circuit diagram



Electrical characteristics (Ta=25°C)

Symbol	Specification			Unit	Conditions
	min	typ	max		
$V_{(BR)DSS}$	60			V	I_D=250μA, V_{GS}=0V
I_{GSS}			±500	nA	V_{GS}=±10V
I_{DSS}			250	μA	V_{DS}=60V, V_{GS}=0V
V_{TH}	1.0		2.0	V	V_{DS}=10V, I_D=250μA
$Re_{(yfs)}$	2.0			S	V_{DS}=10V, I_D=2.5A
$R_{DS(ON)}$		0.15	0.20	Ω	V_{GS}=10V, I_D=2.5A
		0.23	0.28	Ω	V_{GS}=4V, I_D=2.5A
Ciss		400		pF	V_{DS}=25V,
Coss		160		pF	f=1.0MHz,
Crss		35		pF	V_{GS}=0V
$t_{d(on)}$		20		ns	I_D=2.5A,
t_r		25		ns	V_{DD}≒30V,
$t_{d(off)}$		40		ns	R_L=12Ω,
t_f		20		ns	V_{GS}=5V, see Fig. 3 on page 16.
V_{SD}		1.0	1.5	V	I_{SD}=5A, V_{GS}=0V
t_{rr}		150		ns	I_{SD}=±100mA

Characteristic curves