

Specifications

◆ Maximum Ratings at $T_a=25$, $T_c=25$ unless otherwise specified

Parameter	Symbol	Conditions	Ratings	UNIT
Operating substrate temperature	T_C max	Recommended value is 105	115	
AC input voltage	V_{AC}	Specified test circuit	140	Vrms
Operating temperature	T_{opr}		-10 to+85	
Storage temperature	T_{stg}		-30 to+115	
Maximum output power	W_o max	Specified test circuit $V_o=135V$	110	W
(TR1)				
Drain current	I_D		6	A
Pulse drain current	$I_{D(Pulse)}$		20	A
Drain reverse current	I_{DR}		6	A
Gate-source voltage	V_{GSS}		± 30	V
Allowable power dissipation	P_D		78.1	W
Chip junction temperature	T_j max		150	
Thermal resistance	j-c		1.6	/W
(ZD1)				
Allowable power dissipation	P_{ZD1}		500	mW
Chip junction temperature	$T_j(ZD1)_{max}$		125	
Thermal resistance	j-c(ZD1)		0.2	/mW

◆ Allowable operating ranges at $T_a=25$

Parameter	Symbol	Conditions	Ratings	UNIT
Pin 4 input voltage	V_4		± 8 to ± 24	V
Oscillator frequency	f_{osc}		20 to 120	kHz

◆ Operating characteristics at $T_a=25$ $T_c=25$

(unless otherwise specified,specified test circuits)

Parameter	Symbol	Conditions	min	Typ	max	UNIT
Output voltage setting		$I_{IN}=8mA$	40.0	40.5	41.0	V
Output voltage temperature coefficient		$T_C=0$ to 105 , $I_{IN}=8mA$		7		mV/
(TR1)						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0V$	500			V
Gate-source cutoff voltage	$V_{GS(off)}$	$I_D=1mA, V_{DS}=10V$	2.0		3.0	V
ON resistance	$R_{DS(on)}$	$I_D=2.5A, V_{GS}=10V$		1.4	1.8	
Input capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$		800		pF
(ZD1)						
Zener voltage	V_Z	$I_Z=5mA$	23.7		26.3	V

◆ Series organization

These devices form a series with varying output power ratings

Device	Maximum ratings					Operating characteristics		
	V _{DSS} [V]	T _{stg} []	T _c max []	T _j max []	I _b [A]	Input voltage [V]	Output power [W]	ON resistance []
STK730-010	500	-30 to +115	+115	+150	6.0	85 to 132	110	1.4
STK730-020					8.0		145	0.8
STK730-030					10.0		180	0.7
STK730-040					12.0		210	0.55
STK730-050					15.0		280	0.3
STK730-060	900				3.0	170 to 264	110	5.0
STK730-070					5.0		180	3.0
STK730-080					6.0		210	2.0
STJ730-090					8.0		280	1.2