

STK73903

Specifications

Maximum Ratings at $T_a = 25^\circ\text{C}$, $T_c = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Conditions	Ratings	Unit
Operating substrate temperature	$T_c \text{ max}$	Recommended value is 105°C .	115	$^\circ\text{C}$
AC input voltage	V_{AC}	Specified test circuit	140	Vrms
Operating temperature	T_{opr}		-10 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}		-30 to +115	$^\circ\text{C}$
Maximum output power	$W_o \text{ max}$	Specified test circuit, $V_O = 115\text{V}$	180	W
[TR1]				
Drain current	I_D	Refer to ASO characteristics for overcurrent condition.	10	A
Pulse drain current	$I_{D(pulse)}$		35	A
Drain reverse current	I_{DR}		10	A
Gate-source voltage	V_{GS}		± 30	V
Allowable power dissipation	P_D		100	W
Chip junction temperature	$T_{j \text{ max}}$		150	$^\circ\text{C}$
[ZD1]				
Allowable power dissipation	P_{ZD1}		500	mW
Chip junction temperature	$T_{j(ZD1) \text{ max}}$		125	$^\circ\text{C}$

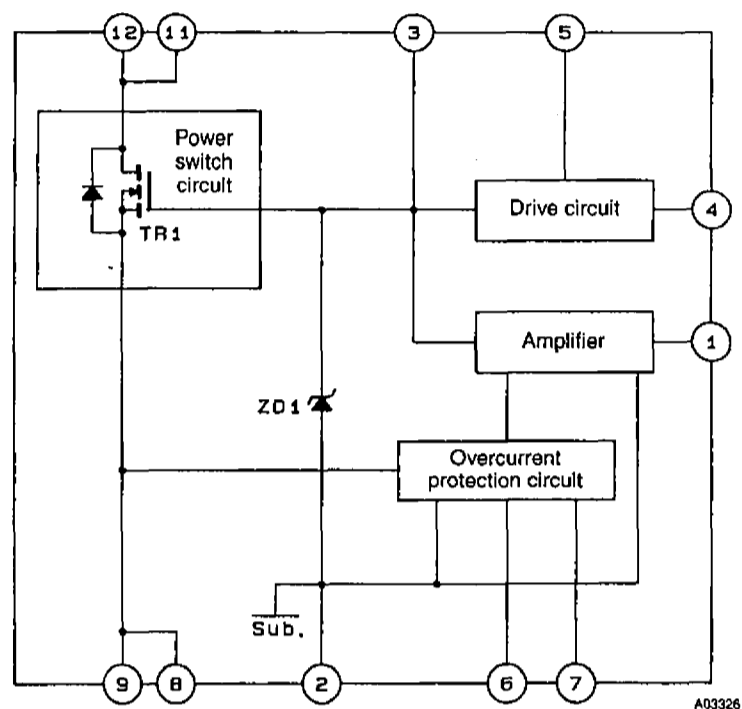
Recommended Operating Conditions at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Pin 4 input voltage	V_4		± 8 to ± 24	V
Oscillator frequency	f_{osc}		20 to 100	kHz

Operating Characteristics at $T_a = 25^\circ\text{C}$, $T_c = 25^\circ\text{C}$ unless otherwise specified, specified test circuit

Parameter	Symbol	Conditions	min	typ	max	Unit
[TR1]						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = 1\text{mA}$, $V_{GS} = 0\text{V}$	500	-	-	V
Gate threshold voltage	$V_{GS(th)}$	$I_D = 1\text{mA}$, $V_{DS} = 10\text{V}$	2.5	3.5	5.0	V
ON resistance	$R_{DS(on)}$	$I_D = 5\text{A}$, $V_{GS} = 10\text{V}$	-	0.6	0.9	Ω
Input capacitance	C_{iss}	$V_{DS} = 25\text{V}$, $V_{GS} = 0\text{V}$, $f = 1\text{MHz}$	-	1400	-	pF
[ZD1]						
Zener voltage	V_Z	$I_Z = 5\text{mA}$	23.7	-	26.3	V

Block Diagram

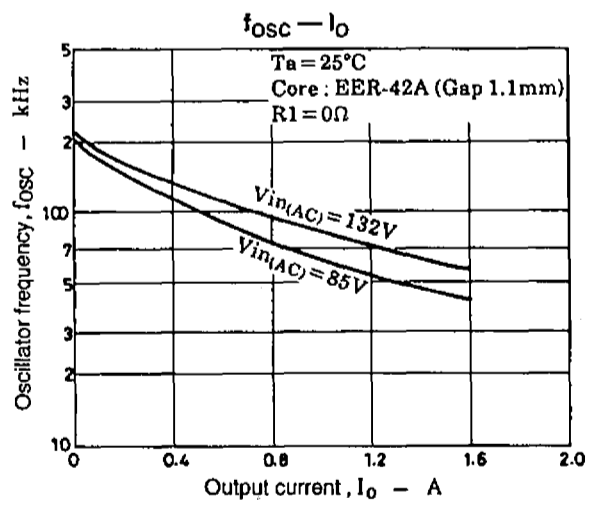
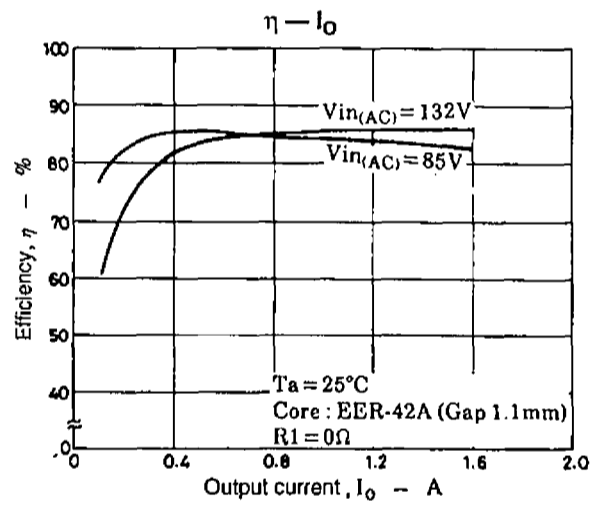
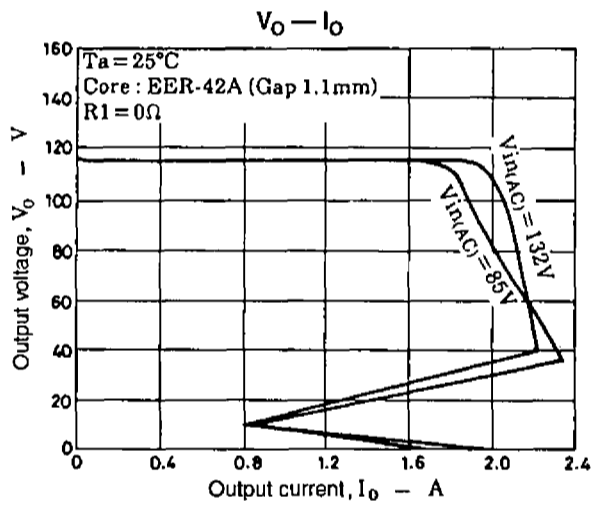
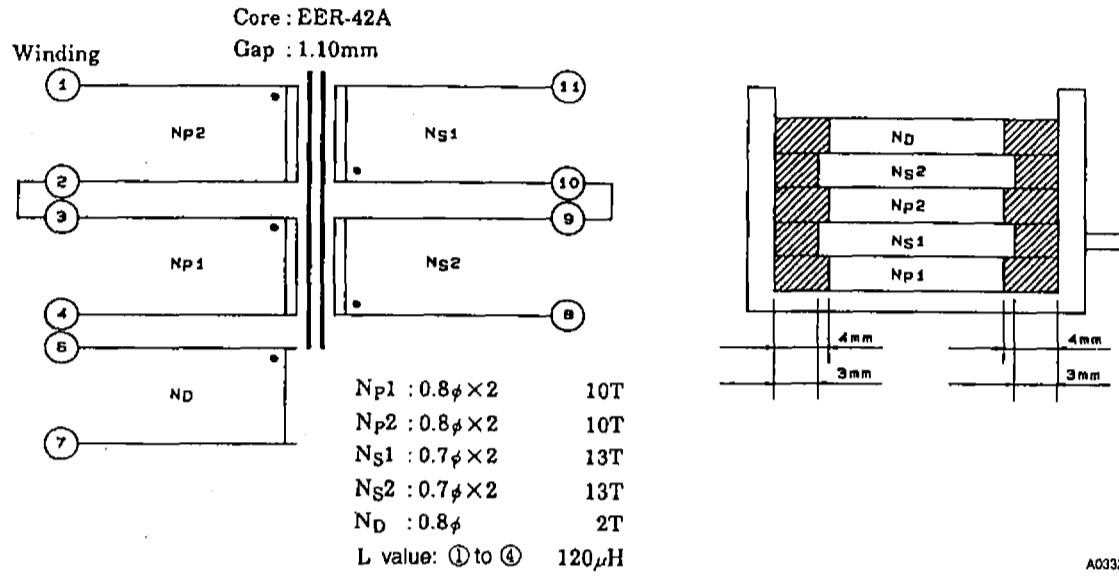


The back surface of the IC is not an insulator, and is effectively at pin 2 potential.

Pin Functions

Pin No.	Function
1	Amplifier circuit control
2	Ground
3	TR1 gate
4	Drive voltage input
5	Starting voltage input
6	OCP setting level input
7	OCP input-voltage dependency detection input
8	TR1 source
9	
11	TR1 drain
12	

Pulse Transformer Specifications



STK73903

Series Organization

These devices form a series with varying output power ratings.

Type No.	Maximum ratings					Operating characteristics		
	V _{DSS} [V]	T _{stg} [°C]	T _{c max} [°C]	T _{j max} [°C]	I _D [A]	Input voltage [V]	Output power [W]	ON resistance [Ω]
STK73902	500	-30 to +115	+115	+150	6.0	85 to 132	110	1.4
STK73903					10.0		180	0.6
STK73904					12.0		210	0.55
STK73905					15.0		280	0.3
STK73906	900	-30 to +115	+115	+150	3.0	170 to 264	110	5.0
STK73907					5.0		180	3.0
STK73908					6.0		210	2.0
STK73909					8.0		280	1.2

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