

Absolute Maximum Ratings (T_A=25°C)

Parameter	Symbol	Value	Unit
Supply Voltage	V _{CC}	20	V
Collector Supply Voltage	V _C	13	V
Output current, Sink or Source	I _O	12	mA
Operating Temperature	TOPR	-25 ~ + 85	°C
Storage Temperature	TSTG	-65 ~ + 150	°C

Electrical Characteristics (T_A = 25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Start-up Hysteresis						
Start-up Current (1)	I _{ST1}	V ₆ = 5V	-	0.5	0.75	mA
Start-up Current (2)	I _{ST2}	V ₆ = 8V	-	1.0	1.5	mA
Start-up Current (3)	I _{ST3}	V ₆ = V _{6E}	-	1.1	1.6	mA
Switch On Voltage	V _{6E}	V ₁ = V ₄ = V ₈ = GND	11	12	13	V
Switch Off Voltage	V _{6A}	V ₁ = V ₄ = V ₈ = GND	6	6.5	7	V
Switch On Current	I _{6E}	V ₁ = V ₄ = V ₈ = GND	-	9.0	12.0	mA
Switch Off Current	I _{6A}	V ₁ = V ₄ = V ₈ = GND	-	8.0	10.0	mA
Voltage Limiter (Pin 2)	V _{2(MAX)}	V ₆ = 10V (IC Switch-Off)	5.8	6.8	7.8	V
Voltage Limiter (Pin 3)	V _{3(MAX)}	V ₆ = 10V (IC Switch-Off)	5.8	6.8	7.8	V
Control Input Voltage	V _{I(CTRL)}	V ₆ = 10V (IC Switch-On)	370	400	430	mV
Gain In Control Range	G _{V(CTRL)}	V ₆ = 10V (IC Switch-On)	48	51	54	dB
Basic Value	V _{2B}	V ₆ = 10V (IC Switch-On)	0.9	1.0	1.15	V
Maximum Peak Value	V _{2(MAX)}	V ₆ = 10V (IC Switch-On)	2.8	3.0	3.4	V
Overload Range Upper Limit	V _{IH}	V ₆ = 10V (IC Switch-On)	370	400	430	mV
Overload Range Lower Limit	V _{IL}	V ₆ = 10V (IC Switch-On)	60	200	290	mV
Gain In Overload Range	G _{V(OVER)}	V ₆ = 10V (IC Switch-On)	1	2	3	dB
Input Current	I ₁	V ₆ = 10V (IC Switch-On)	90	140	180	μA
In Short-Circuit Operation						
Peak Value (1)	V _{2(PK)1}	V ₁ = 3.5V	2.8	3.0	3.4	V
Peak Value (2)	V _{2(PK)2}	V ₁ = 0V	2.35	2.65	2.95	V
Output Pulse Width	t _{w1}	V ₁ = 3.5V	3.5	5	6.5	μs
Output Pulse Width	t _{w2}	V ₁ = 0V	2.5	4	5.5	μs
Current Consumption (1)	I ₆₁	V ₁ = 3.5V	-	12	15	mA
Current Consumption (2)	I ₆₂	V ₁ = 0V	-	12	15	mA
Overload Point	-I ₂	V ₃ = V ₄ , V ₂ = 0V	400	660	850	μA

Electrical Characteristics (T_A = 25°C) (Continued)

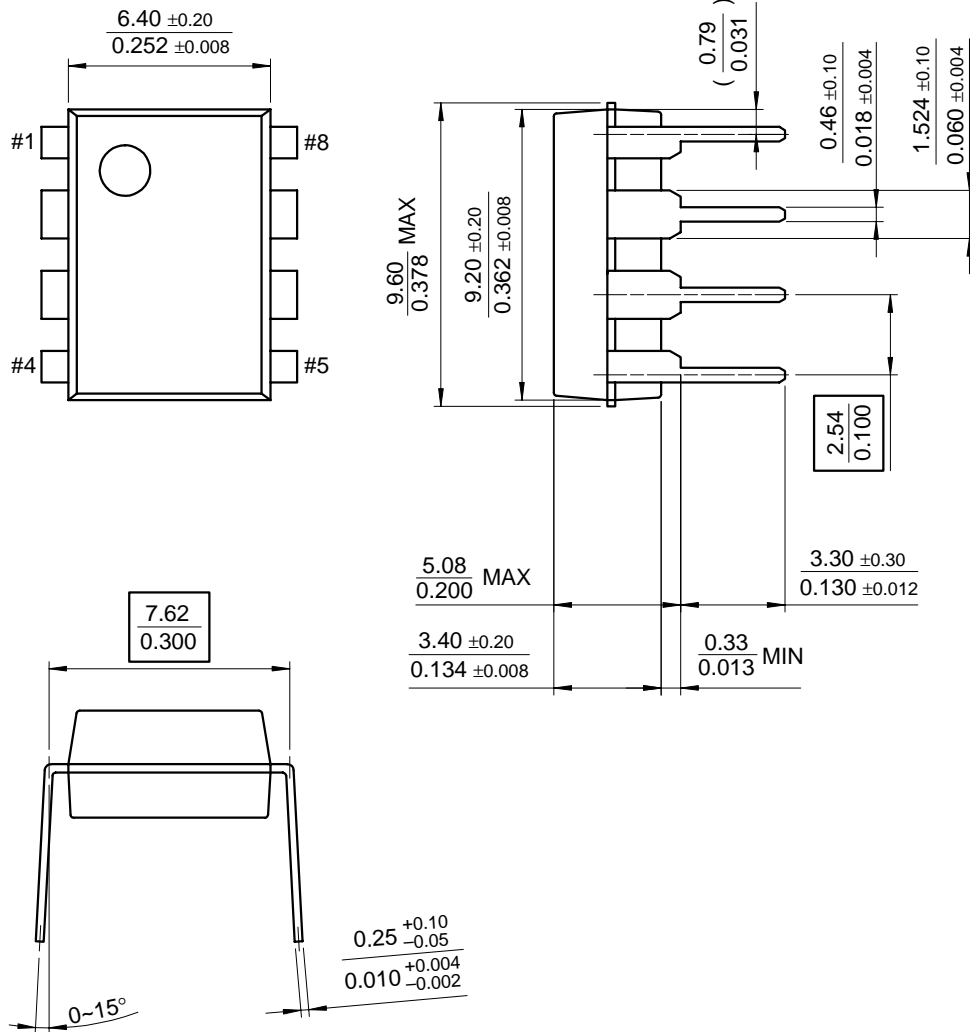
Correction Current						
Positive Value	V _{8(P)}	I ₈ = 1mA	0.7	0.75	0.8	V
Negative Value	V _{8(N)}	I ₈ = -1mA	0.15	0.22	0.25	V
Threshold Value	V _{8(S)}	-	40	50	60	mV
Delay Time	t _D	-	-	0.4	0.7	μs
Saturation Voltage (1)	V _{SAT1}	I ₅ = -1.0A	-	2.5	3.0	V
Saturation Voltage (2)	V _{SAT2}	I ₅ = 1.0A	-	2.5	3.0	V
Rising Edge	+dV ₅ /dt	V ₁ = 3.5V	4.0	50	-	V/μs
Falling Edge	-dV ₅ /dt	V ₁ = 3.5V	50	75	-	V/μs
Under VTG. Protection (1)	ΔV _{6(UV)}	V _{6MIN} = V _{6a} + ΔV ₆	0.3	0.5	1	V
Over VTG. Protection	V _{6(MAX)}	-	14	15	16	V
Under VTG. Protection (2)	V _{3(UV)}	-	0.925	1	1.075	V
Overtemperature	T _J	-	150	175	200	°C
Protection						
Voltage Pin 3	V ₃	I ₃ = 1mA	-	0.35	0.5	V

Mechanical Dimensions

Package

Dimensions in millimeters

8-DIP



Ordering Information

Product Number	Package	Operating Temperature
KA7515	8-DIP	-25 ~ + 85°C

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