

DESCRIPTION

These regulators employ internal current-limiting and thermal-shutdown, making them essentially indestructible. They can deliver up to 100mA output current.

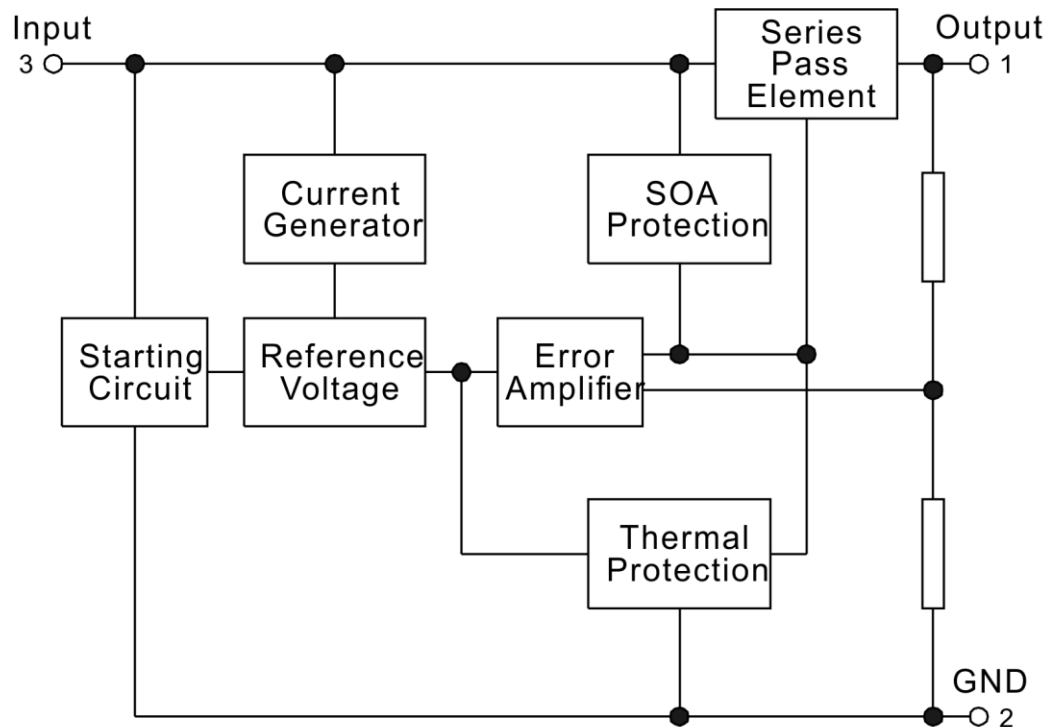
APPLICATIONS

- SCSI-2 active termination
- High efficiency linear regulators
- 5V to 3.3V voltage converter

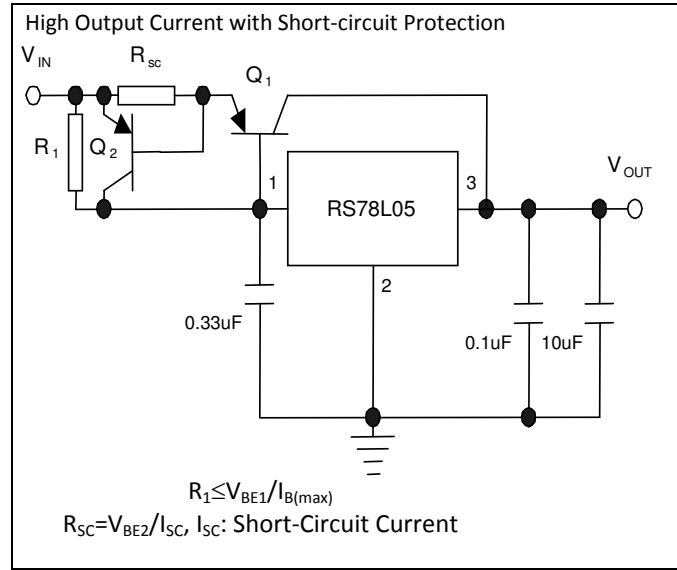
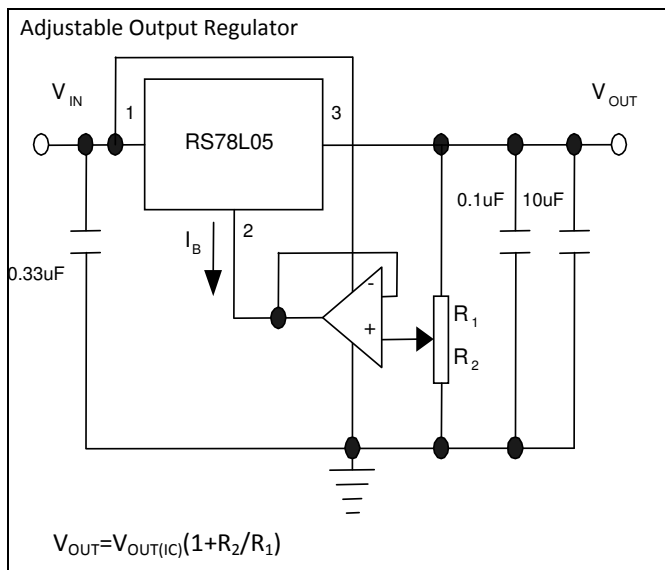
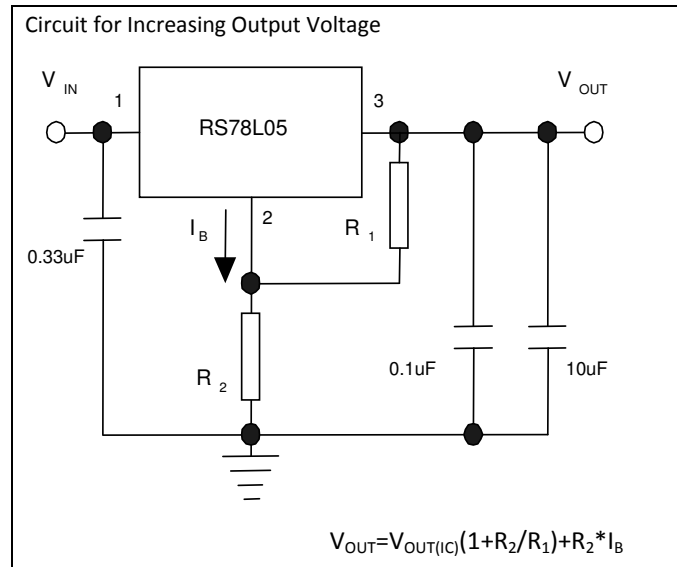
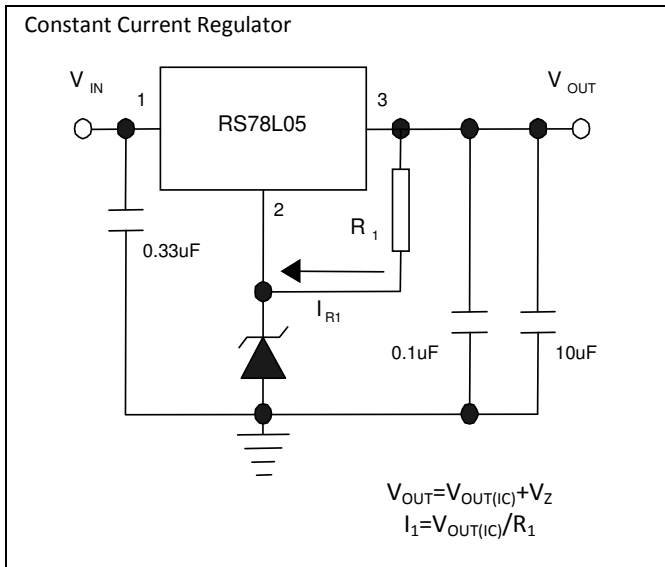
FEATURES

- Maximum Output Current of 100mA ($T_C=25^\circ\text{C}$)
- Internal Short-Circuit Current Limiting
- Internal Thermal Overload Protection
- TO-92 & SOT-89 Package

SCHEMATIC DIAGRAM



APPLICATION CIRCUITS

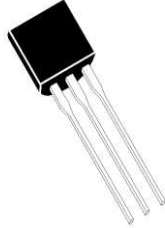


ORDER INFORMATION

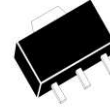
DEVICE	DEVICE CODE
RS78L05 X Y Z	<p>X is Reference voltage precision designator: A: 5V ±3%</p> <p>Y is package designator : A: TO-92 M: SOT-89</p> <p>Z is Lead Free designator : P: Commercial Standard, Lead (Pb) Free and Phosphorous (P) Free Package</p>

PIN ASSIGNMENTS

TO-92



SOT-89



PIN DESCRIPTION

Package	Pin No.	Pin Name	Description
TO- 92 SOT-89	1	VOUT	Regulator Output Pin
	2	GND	Ground Pin
	3	VIN	Regulator Input Pin

ABSOLUTE MAXIMUM RATINGS

(T_A=25°C, Unless Otherwise Specified)

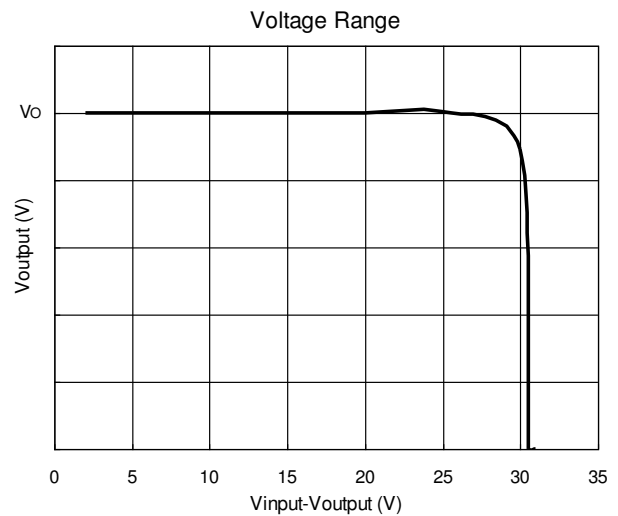
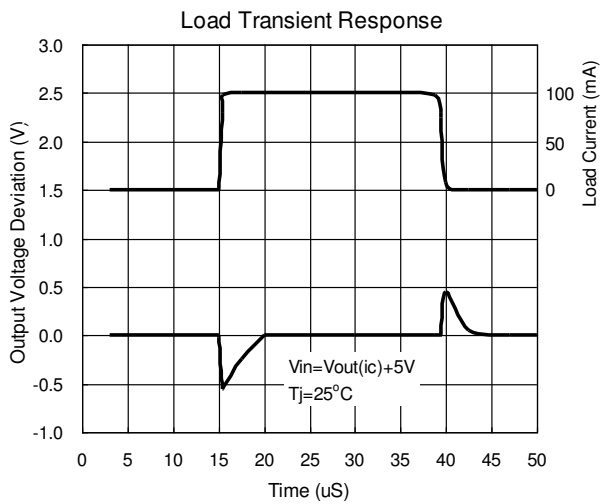
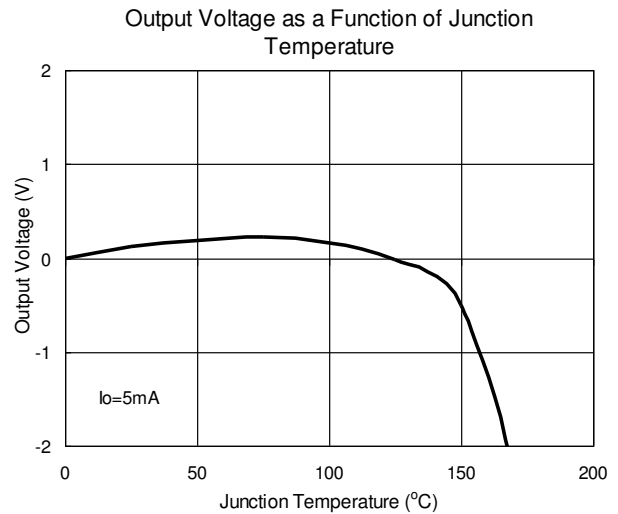
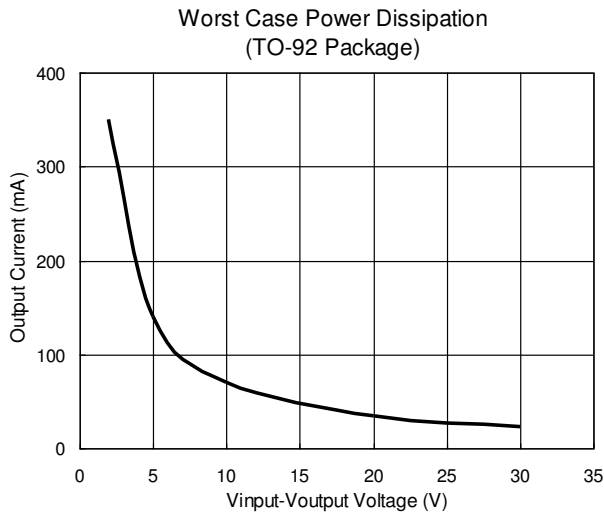
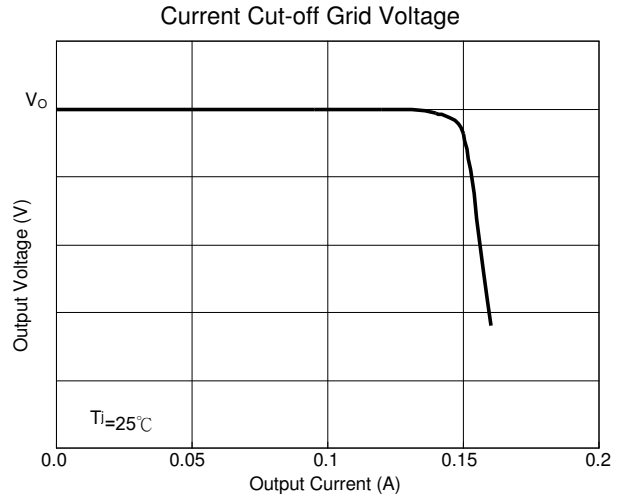
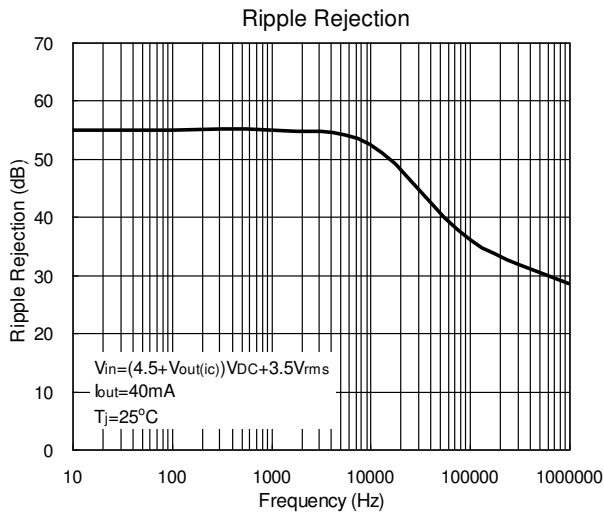
Characteristic	Symbol	Rating	Unit
Input Voltage	V _{IN}	30	V
Power Dissipation	P _D	TO-92	700
		SOT-89	500
Operating Temperature	T _{opr}	-40 to 125	°C
Storage Temperature	T _{stg}	-40 to 150	°C
Junction Temperature	T _j	150	°C
Thermal Resistance	R _{th(i-a)}	208	°C/W

ELECTRICAL CHARACTERISTICS

$V_{IN}=10V$, $I_{OUT}=40mA$, $C_{IN}=0.33\mu F$, $C_{OUT}=0.1\mu F$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$ (unless otherwise specified)

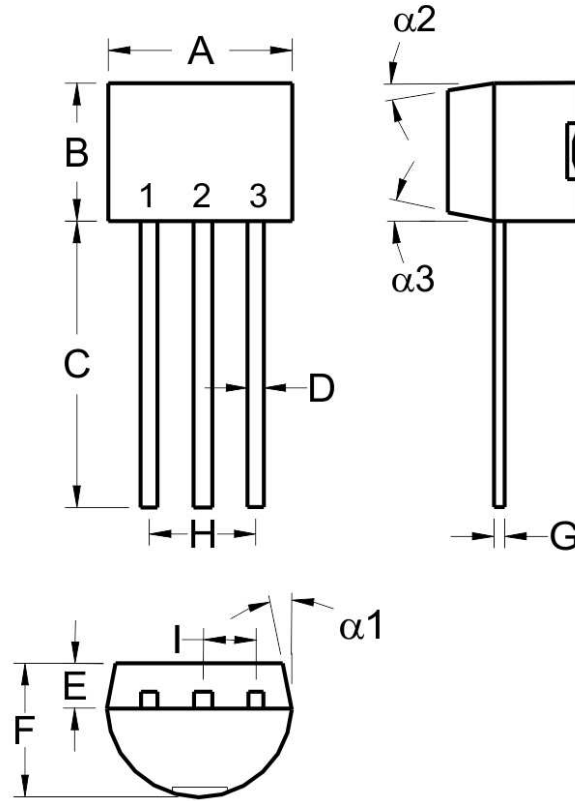
Parameter	Symbol	Conditions	RS78L05			Units
			Min	Typ	Max	
Output Voltage	V_O	$T_j=25^{\circ}C$	4.85	5	5.15	V
		$1mA \leq I_{OUT} \leq 70mA$	4.85	5	5.15	
		$7V \leq V_{IN} \leq 20V$, $1mA \leq I_{OUT} \leq 40mA$				
Line Regulation	Reg_{line}	$T_j=25^{\circ}C$, $7V \leq V_{IN} \leq 20V$	-	15	150	mV
		$T_j=25^{\circ}C$, $8V \leq V_{IN} \leq 20V$	-	15	100	
Load Regulation	Reg_{load}	$T_j=25^{\circ}C$, $1mA \leq I_{OUT} \leq 100mA$	-	5	60	mV
		$T_j=25^{\circ}C$, $1mA \leq I_{OUT} \leq 40mA$	-	8	30	
Quiescent Current	I_B	$I_{OUT}=5mA$, $T_j=25^{\circ}C$	-	3.9	6	mA
Quiescent Current Change	ΔI_B	$8V \leq V_{IN} \leq 20V$, $T_j=25^{\circ}C$	-	-	1.5	mA
		$1mA \leq I_{OUT} \leq 40mA$, $T_j=25^{\circ}C$	-	-	0.1	
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$, $T_j=25^{\circ}C$	-	40	-	μV_{rms}
Ripple Rejection	RR	$8V \leq V_{IN} \leq 18V$, $f=120Hz$, $T_j=25^{\circ}C$	47	62	-	dB
Dropout Voltage	V_D	$T_j=25^{\circ}C$, $I_{OUT}=100mA$	-	1.7	2.5	V
Peak Output Current	I_{PK}			150		mA
Output Resistance	R_O	$f=1KHz$	-	17	-	$m\Omega$
Average Temperature Coefficient of Output Voltage	T_{CVO}	$I_{OUT}=5mA$	-	-	-0.6	$mV/^{\circ}C$

CHARACTERISTICS CURVE



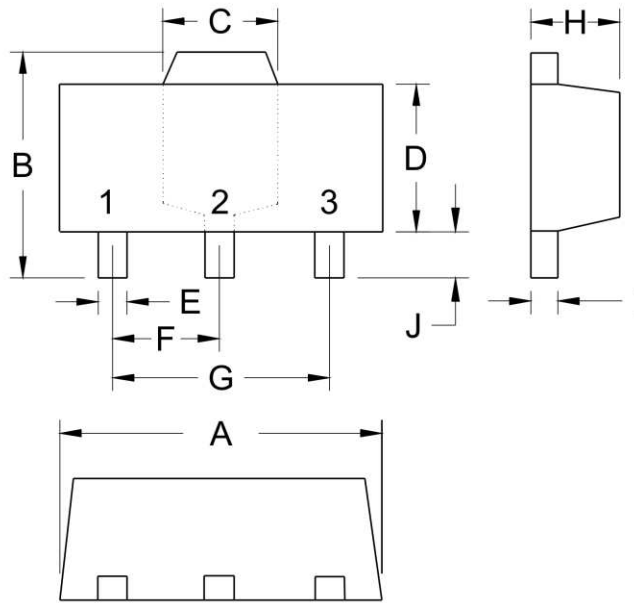
PACKAGE INFORMATION

3-PIN, TO-92



Symbol	Millimeter	
	Min.	Max.
A	4.33	4.83
B	4.33	4.83
C	12.70	-
D	0.36	0.56
E	-	*1.27
F	3.36	3.76
G	0.36	0.56
H	-	*2.54
I	-	*1.27
$\alpha 1$	-	*5°
$\alpha 2$	-	*2°
$\alpha 3$	-	*2°

3-PIN, SOT-89



Symbol	Millimeter	
	Min.	Max.
A	4.40	4.60
B	4.05	4.25
C	1.50	1.70
D	2.40	2.60
E	0.36	0.51
F	*1.50	-
G	*3.00	-
H	1.40	1.60
I	0.35	0.41

Notes:
 1. All dimensions are in millimeter.
 2. *:Typical

IMPORTANT NOTICE

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