

Features

- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

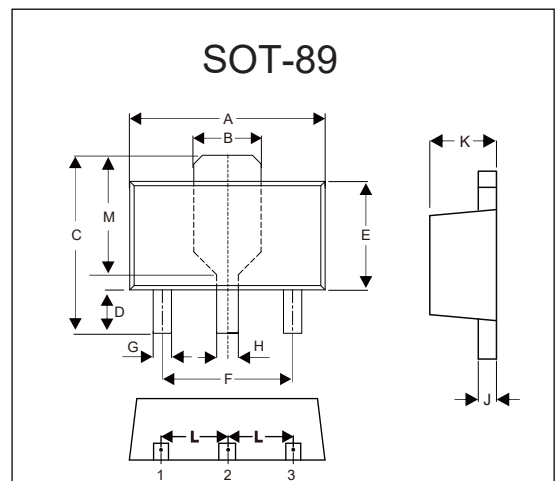
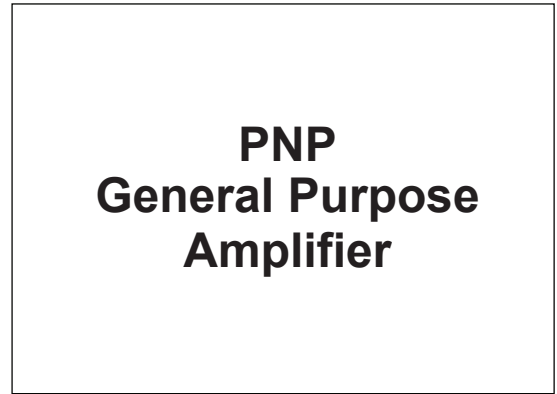
Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-100	V
Collector-Emitter Voltage	V_{CEO}	-80	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-1	A
Power Dissipation	P_D	500	mW

Thermal characteristics

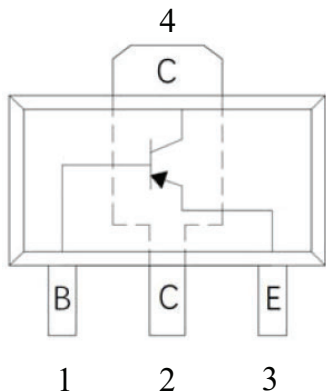
Parameter	Symbol	Rating	Unit
Operating Junction Temperature Range	T_{OPR}	-55~+150	°C
Storage Temperature Range	T_{STR}	-55~+150	°C
Thermal Resistance from Junction to Ambient ^(Note 2)	$R_{th(j-a)}$	250	°C/W

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Device mounted on FR-4 PCB 1.0×1.0×0.06 Inch, with standard footprint

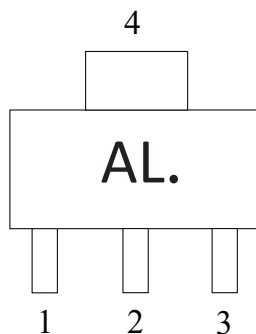


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.061		1.55		TYP.
C	0.154	0.171	3.91	4.35	
D	0.031	0.047	0.80	1.20	
E	0.089	0.104	2.25	2.65	
F	0.118		3.00		TYP.
G	0.013	0.020	0.33	0.52	
H	0.015	0.021	0.38	0.53	
J	0.014	0.017	0.35	0.44	
K	0.055	0.063	1.40	1.60	
L	0.059		1.50		TYP.
M	0.108		2.75		TYP.

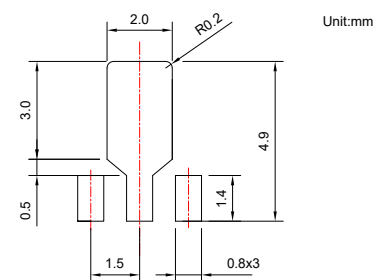
Internal Structure



Marking Code



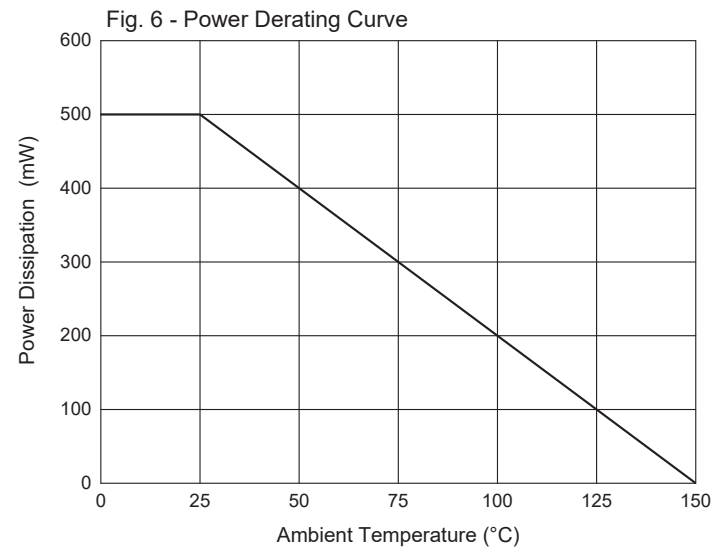
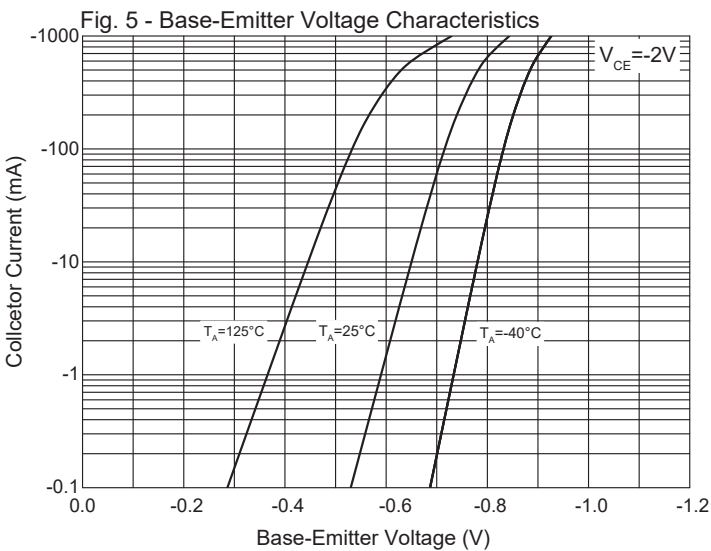
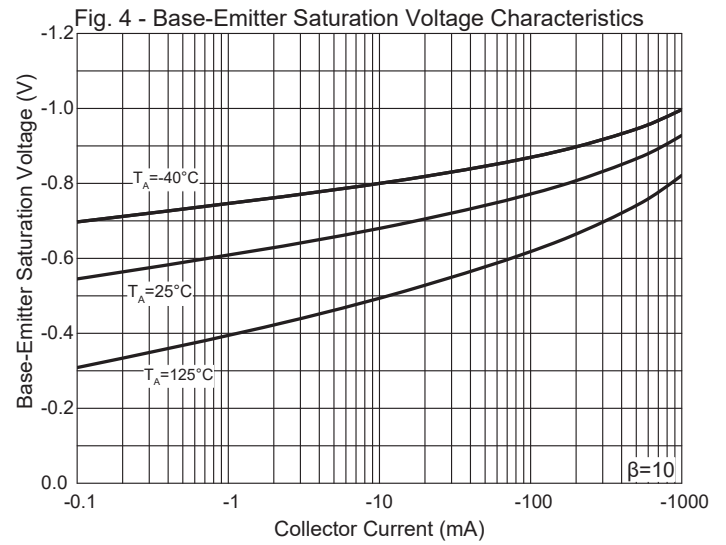
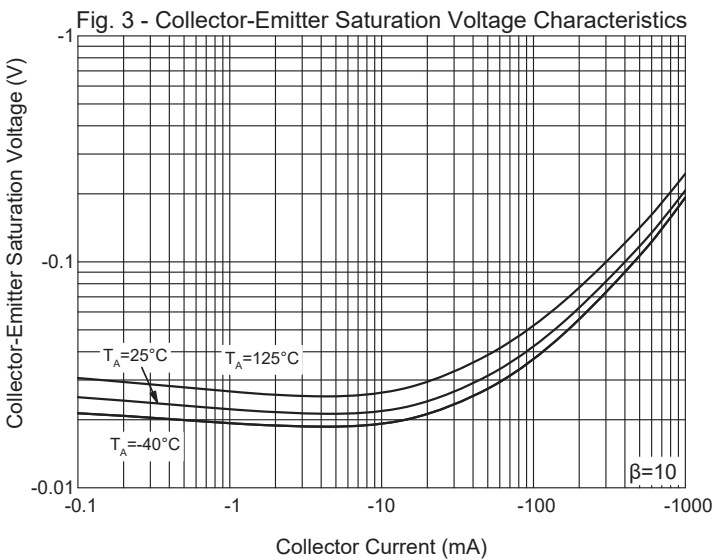
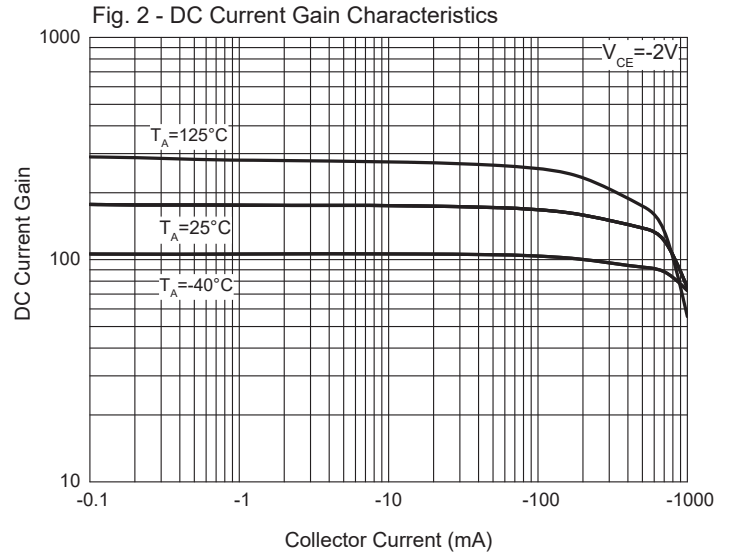
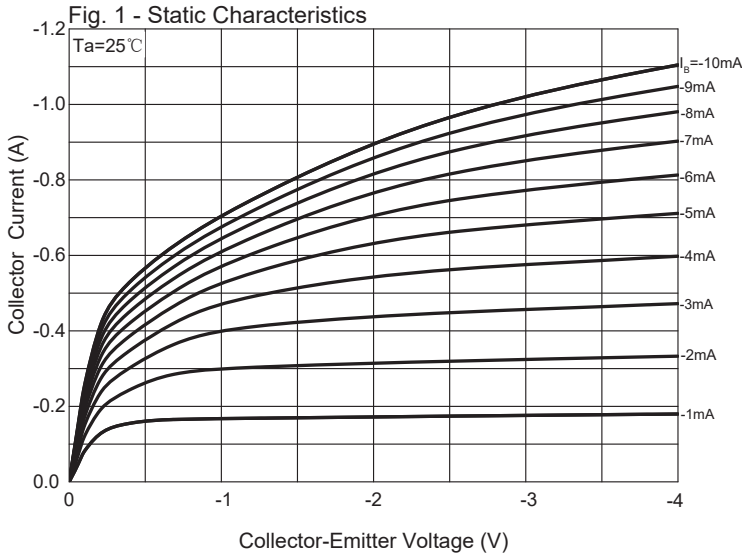
Suggested Solder Pad Layout



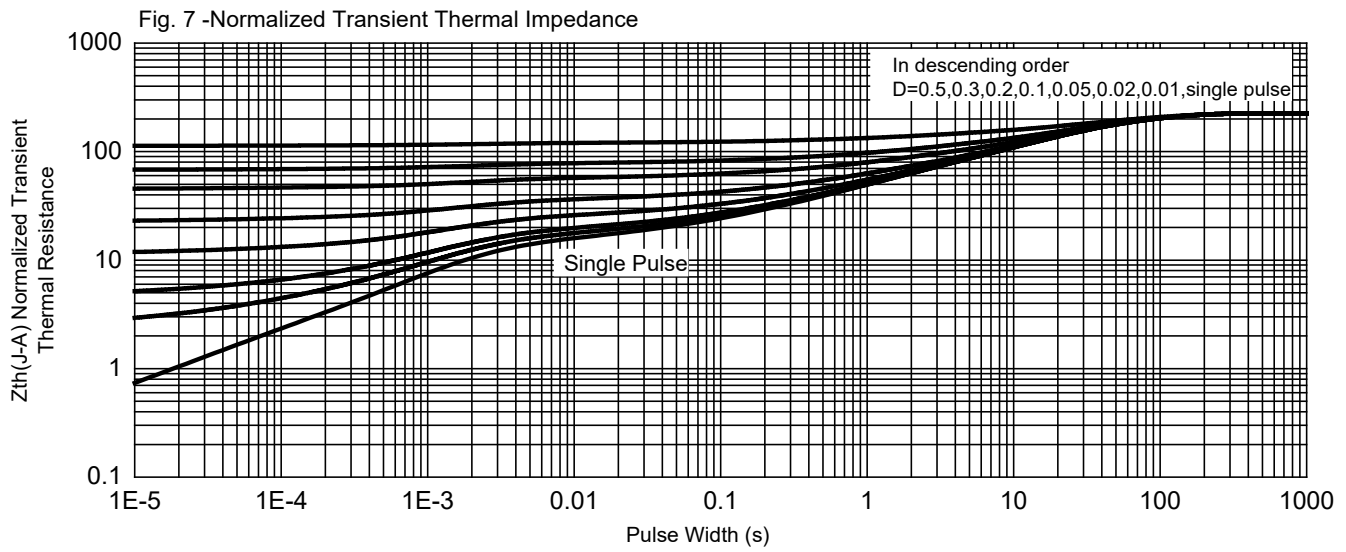
Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-100			V	$I_C = -100\mu A, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-80			V	$I_C = -10mA, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E = -100\mu A, I_C = 0$
Collector Cutoff Current	I_{CBO}			-0.1	μA	$V_{CB} = -30V, I_E = 0$
Emitter-Base Cutoff Current	I_{EBO}			-0.1	μA	$V_{EB} = -5V, I_C = 0$
DC Current Gain	h_{FE1}	63				$V_{CE} = -2V, I_C = -5mA$
	h_{FE2}	100		250		$V_{CE} = -2V, I_C = -150mA$
	h_{FE3}	40				$V_{CE} = -2V, I_C = -500mA$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.5	V	$I_C = -500mA, I_B = -50mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-1.2	V	$I_C = -500mA, I_B = -50mA$
Base-Emitter Voltage	V_{BE}			-1.0	V	$I_C = -500mA, V_{CE} = -2V$
Transition Frequency	f_T	50			MHz	$V_{CE} = -5V, I_C = -10mA, f = 100MHz$

Curve Characteristics



Curve Characteristics



Note: 2. Device mounted on FR-4 PCB 1.0×1.0×0.06 Inch,with standard footprint

Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:1Kpcs/Reel
Part Number-TPQ4	Tape&Reel:1Kpcs/Reel

For packaging details, go to our website at https://www.mccsemi.com/pdf/productpackaging/SOT-89_Package_Rev_1.pdf

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