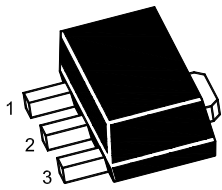
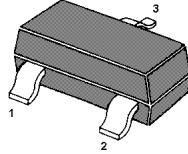


SOT89



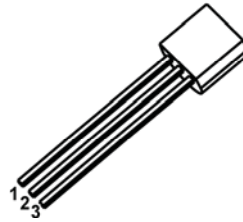
1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

SOT23-3L



1.Base 2.Emitter 3.Collector

TO-92



1. EMITTER 2. COLLECTOR 3. BASE

FEATURE

- High voltage: $V_{CEO}=160V$
- Large continuous collector current capability

MAXIMUM RATINGS ($T_A=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	160	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	1	A
P_C	Collector Power Dissipation	0.5	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	160		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=10mA, I_B=0$	160		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6		V
Collector cut-off current	I_{CBO}	$V_{CB}=150V, I_E=0$		1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6V, I_C=0$		1	μA
DC current gain	h_{FE}	$V_{CE}=5V, I_C=200mA$	100	320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$		1	V
Base-emitter voltage	V_{BE}	$I_C=5mA, V_{CE}=5V$	0.45	0.75	V
Transition frequency	f_T	$V_{CE}=5V, I_C=200mA$	20		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		20	pF

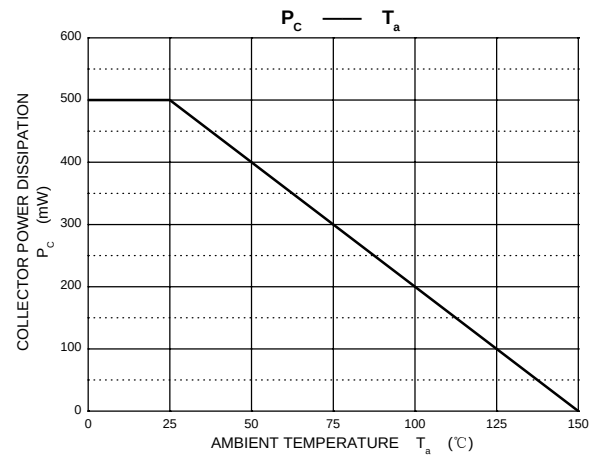
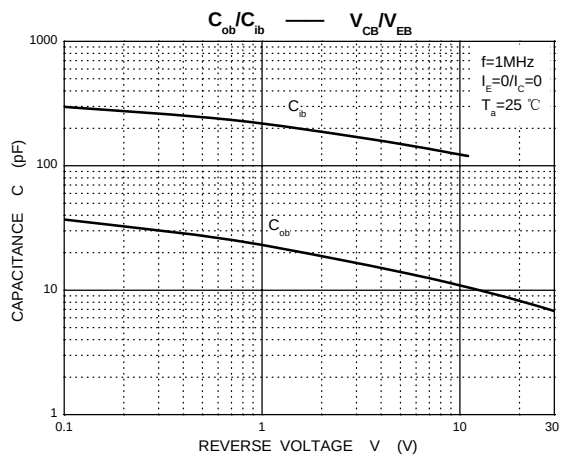
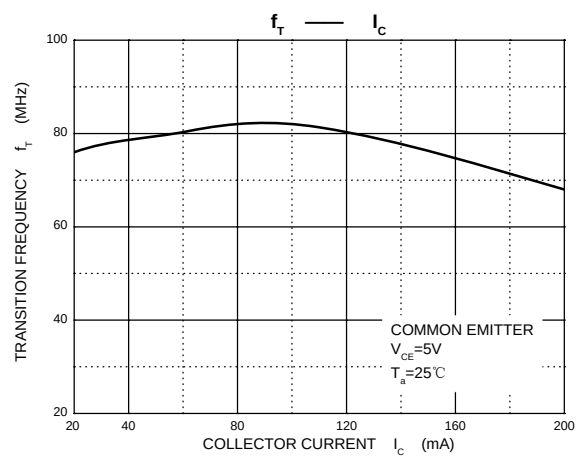
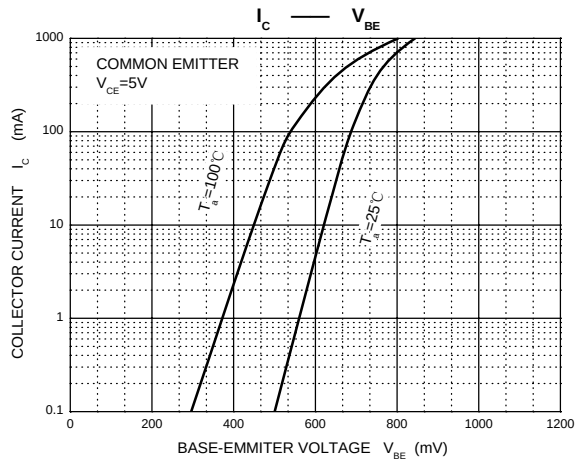
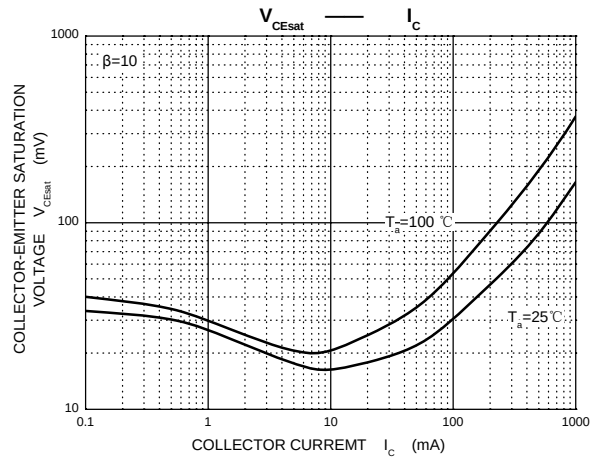
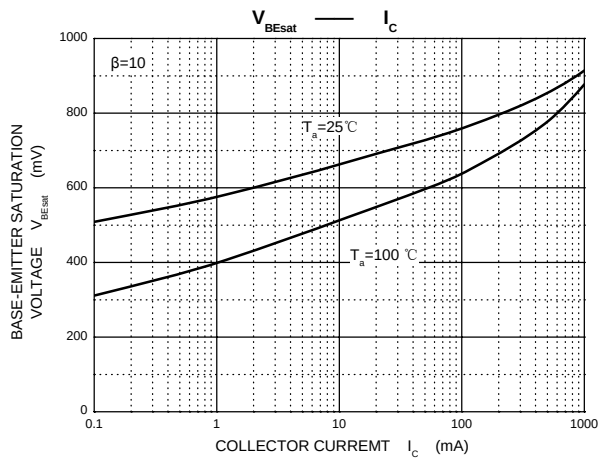
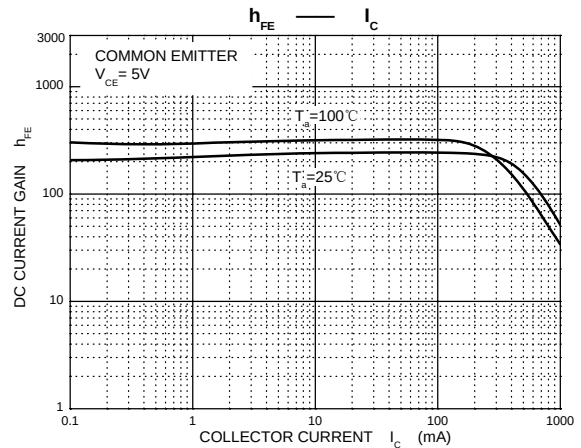
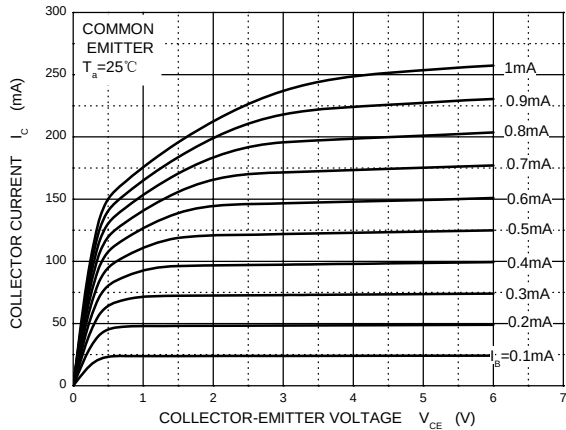
* pulse test

CLASSIFICATION OF h_{FE}

Rank	O	Y
Range	100-200	160-320

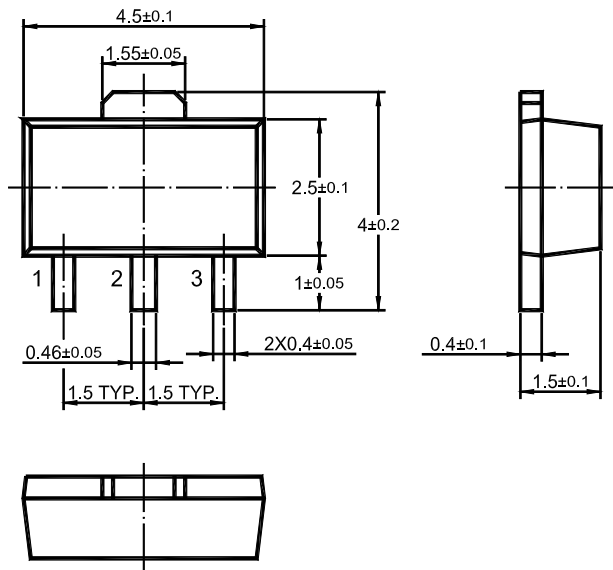
Typical Characteristics

Static Characteristic

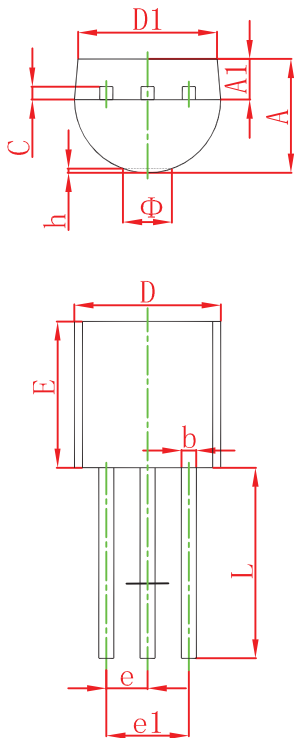


SOT-89 PACKAGE OUTLINE

Dimensions in mm

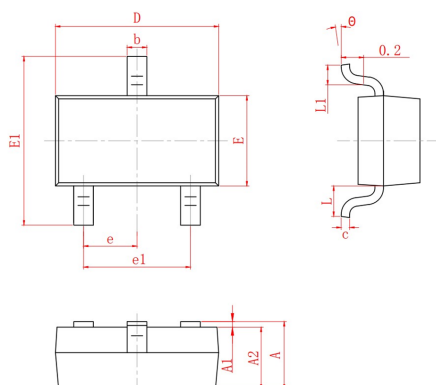


TO-92 PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

SOT23-3L PACKAGE OUTLINE



SYMBOL	MIN	NOM	MAX
A	0.90	1.05	1.20
A1	0.00	0.05	0.10
A2	0.90	1.00	1.10
b	0.30	0.40	0.50
c	0.08	0.10	0.15
D	2.80	2.90	3.00
E	1.50	1.60	1.70
E1	2.65	2.80	2.95
L	0.30	0.40	0.50
θ	0°	5°	10°
L1	0.55 REF		
e	0.95 BSC		
e1	1.90 REF		