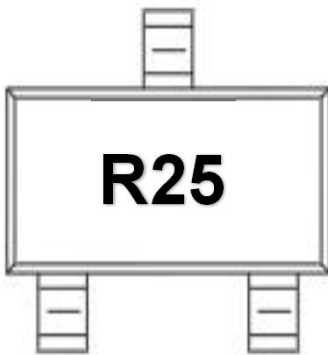


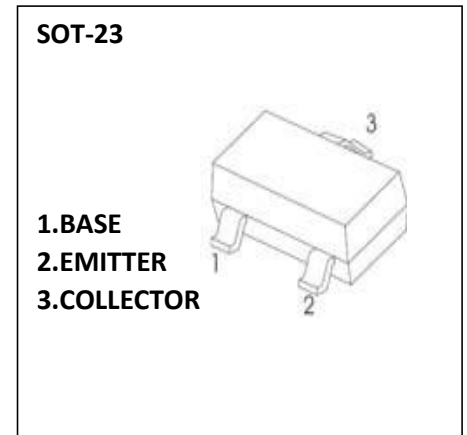
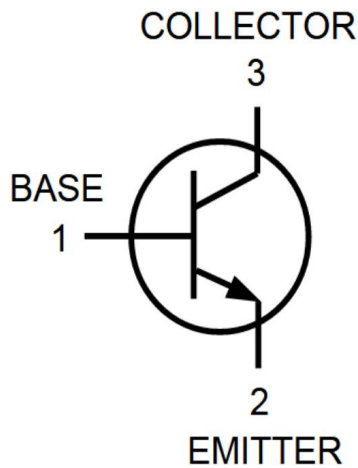
SOT-23 Plastic-Encapsulate MOSFETS

2SC3838 TRANSISTOR (NPN)

MARKING:



Equivalent Circuit:



FEATURES:

- ※ High transition frequency
- ※ Small $r_{bb}' \cdot C_c$ and high gain.
- ※ Small NF.

ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	VCBO	20	V
Collector-Emitter Voltage	VCEO	11	V
Emitter-Base Voltage	VEBO	3	V
Collector Current	IC	50	mA
Collector Power Dissipation	PC	200	mW
Thermal Resistance From Junction To Ambient	RθJA	200	°C/W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

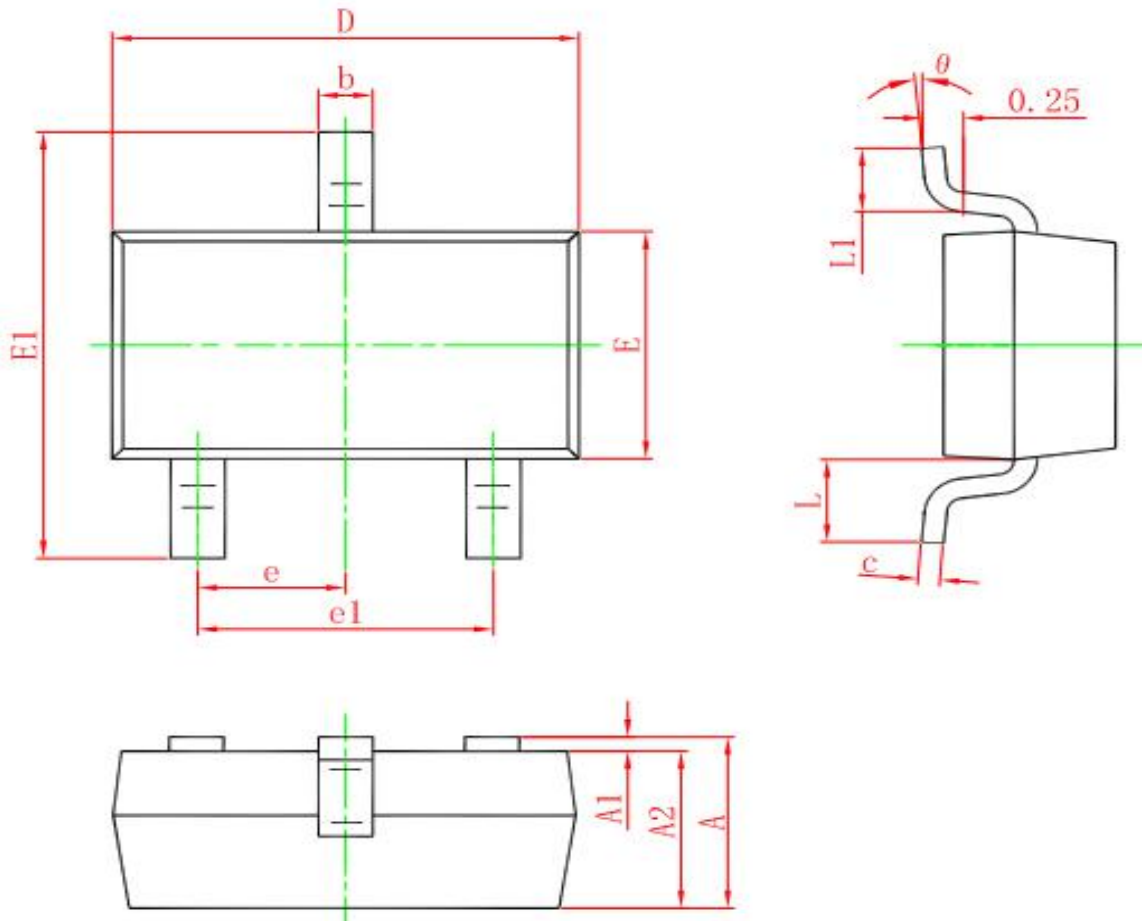
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	V(BR)CBO	IC= 100μA, IE=0	20			V
Collector-emitter breakdown voltage	V(BR)CEO	IC= 1mA, IB=0	11			V
Emitter-base breakdown voltage	V(BR)EBO	IE= 100μA, IC=0	3			V
Collector cut-off current	ICBO	VCB= 20 V , IE=0			0.5	μA
Emitter cut-off current	IEBO	VEB= 3V , IC=0			0.5	μA
DC current gain	hFE	VCE= 10V, IC= 5mA	82		250	
Collector-emitter saturation voltage	VCE(sat)	IC= 10 mA, IB= 5mA			0.5	V
Base-emitter saturation voltage	VBE(sat)	IC= 10 mA, IB= 5mA			1.2	V
Transition frequency	fT	VCE=10V, IC= 10mA f=500MHz,	1.4	3.2		GHz
Collector output capacitance	Cob	VCB = 10 V, IE = 0 mA, f = 1 MHz			1.5	PF
Collector-base time constant	rbb'.Cc	VCB = 10 V, IC = 10 mA, f=31.8 MHz,		4	12	ps
Noise figure	NF	VCE = 6 V, IC = 2 mA, f = 500MHz, Rg=50Ω		3.5		dB

CLASSIFICATION OF hFE

TYPE	2SC3838-P	2SC3838-Q	2SC3838-Y
Range	82-180	100-200	120-240
MARKING	ADP	ADQ	ADY

SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°