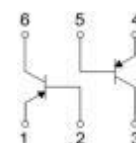


FEADURE

Epitaxial planar die construction

Ideal for low power amplification and switching

SOT-563



MARKING :KAR

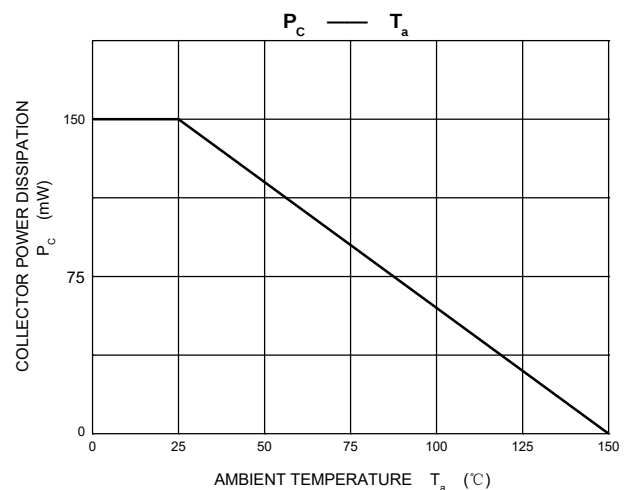
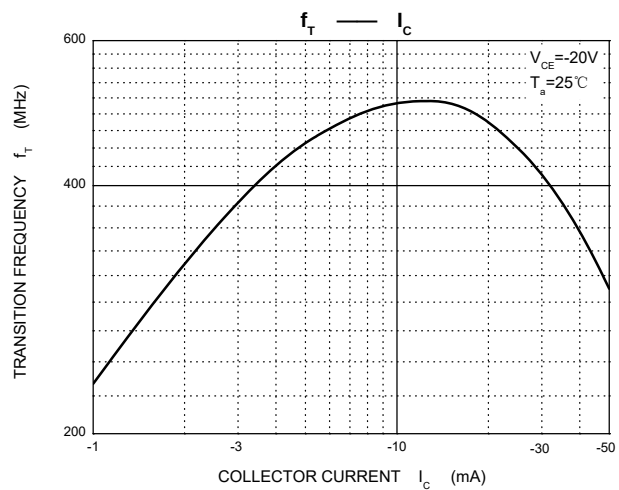
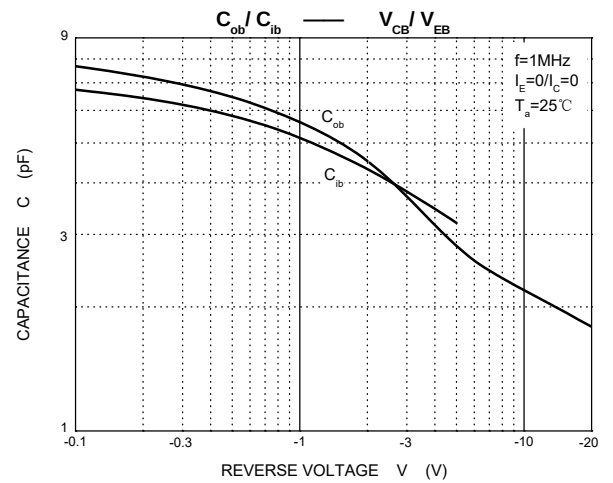
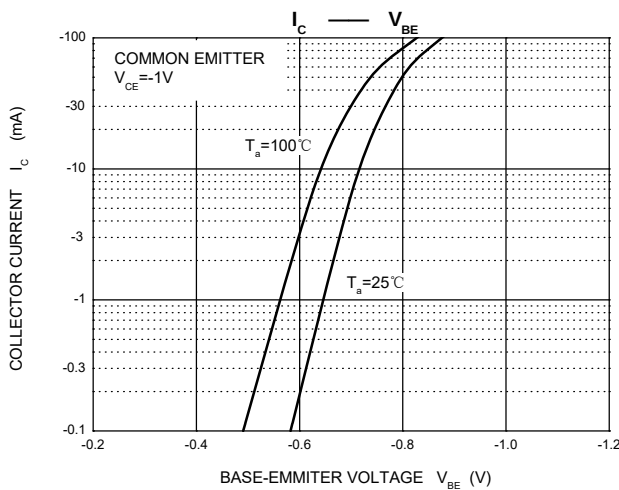
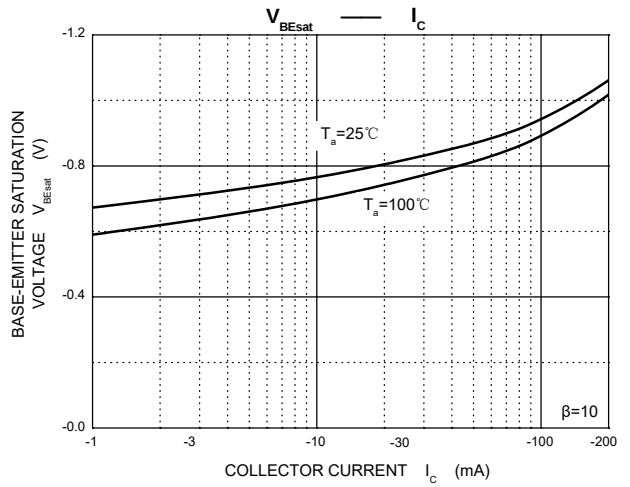
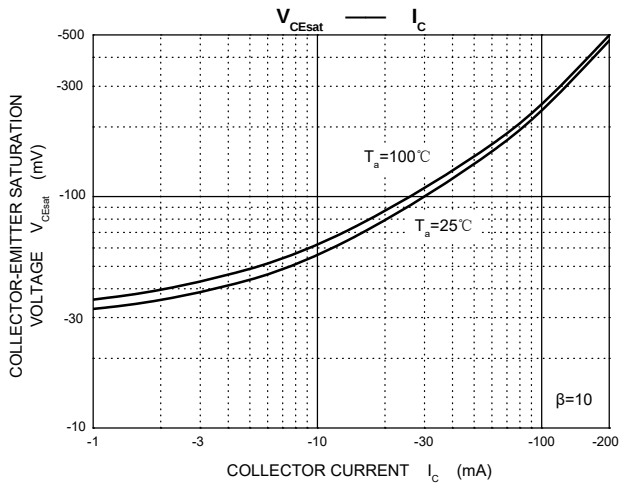
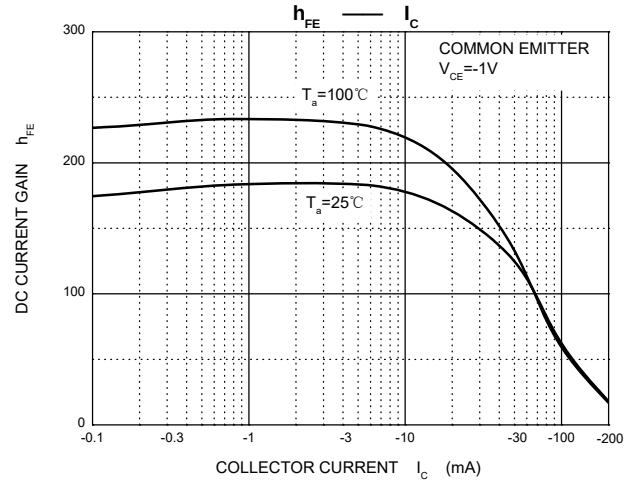
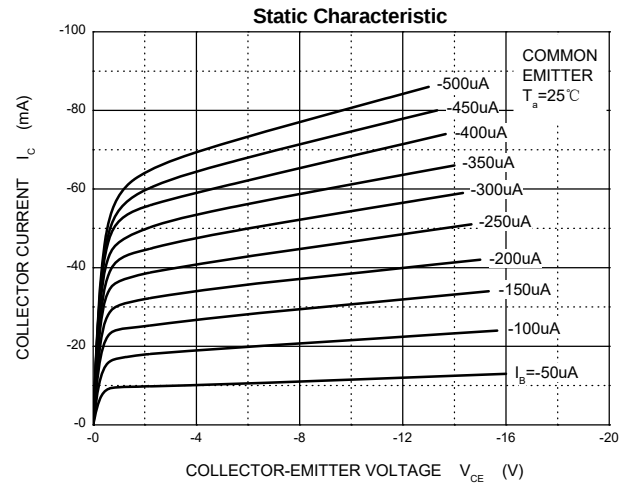
MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

symbol	parameter	Value	unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-0.2	A
p_c	Collector Power Dissipation	150	mW
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

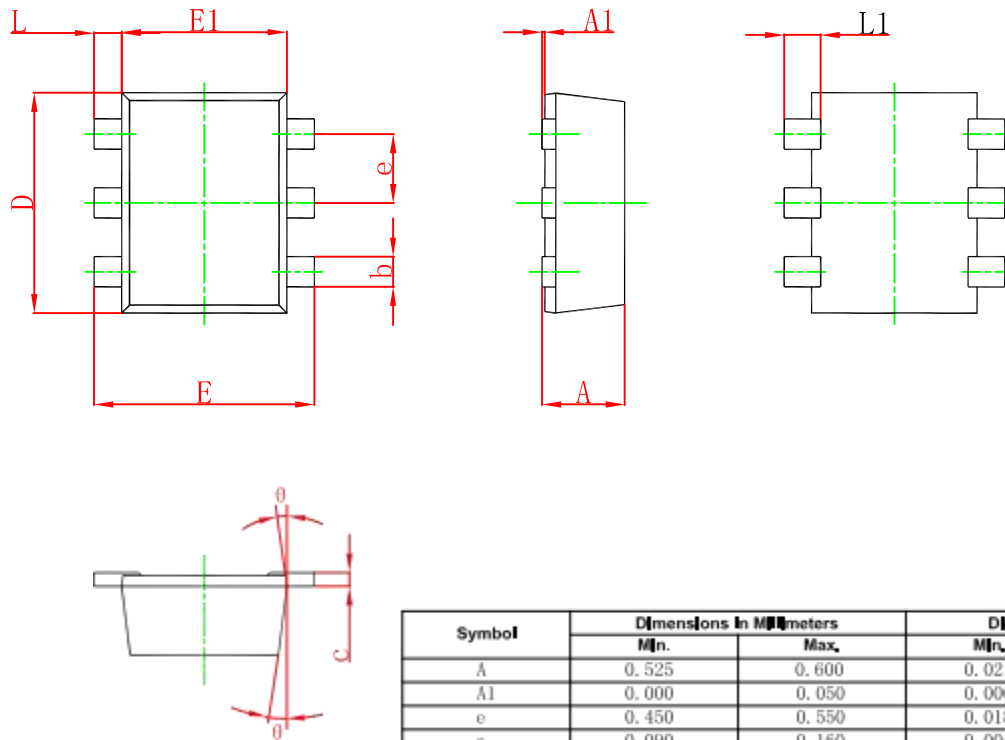
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

parameter	symbol	Test conditions	Min	Typ	Max	unit
Collector-base breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0$	-40			V
Collector-emitter breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-40			V
Emitter-base breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-30\text{V}, I_E=0$			-0.05	μA
Emitter cut-off current	I_{EBO}	$V_{BE}=-5\text{V}, I_C=0$			-0.05	μA
Collector cut-off current	I_{CEX}	$V_{CE}=-30\text{V}, V_{BE(off)}=-3\text{V}$			-0.05	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-1\text{V}, I_C=-0.1\text{mA}$	60			
	$h_{FE(2)}$	$V_{CE}=-1\text{V}, I_C=-1\text{mA}$	80			
	$h_{FE(3)}$	$V_{CE}=-1\text{V}, I_C=-10\text{mA}$	100		300	
Collector-emitter saturation Voltage	$V_{CE(sat)1}$	$I_C=-10\text{mA}, I_B=-1\text{mA}$			-0.25	V
	$V_{CE(sat)2}$	$I_C=-50\text{mA}, I_B=-5\text{mA}$			-0.4	V
Base-emitter saturation Voltage	$V_{BE(sat)1}$	$I_C=-10\text{mA}, I_B=-1\text{mA}$	-0.65		-0.85	V
	$V_{BE(sat)2}$	$I_C=-50\text{mA}, I_B=-5\text{mA}$			-0.95	V
Transition frequency	f_T	$V_{CE}=-20\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$	250			MHz
Collector output capacitance	C_{ob}	$V_{CB}=-5\text{V}, I_E=0, f=1\text{MHz}$			4.5	pF
Collector input capacitance	C_{ib}	$V_{EB}=-0.5\text{V}, I_C=0, f=1\text{MHz}$			10	pF
Delay time	t_d	$V_{CC}=-3\text{V}, V_{BE(off)}=0.5\text{V}$			35	ns
Rise time	t_r	$I_C=-10\text{mA}, I_{B1}=-I_{B2}=-1\text{mA}$			35	ns
storage time	t_s	$V_{CC}=-3\text{V}, I_C=-10\text{mA}$			225	ns
Fall time	t_f	$I_{B1}=-I_{B2}=-1\text{mA}$			75	ns

Typical Characteristics

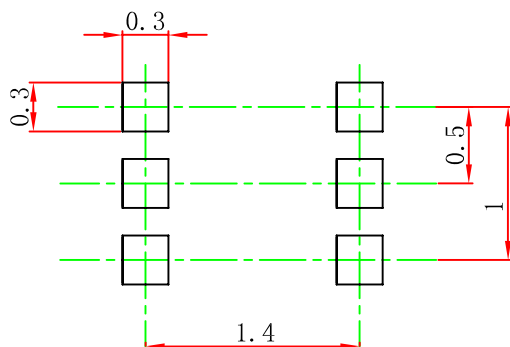


SOT-563 Package Outline Dimensions



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min.	Max.	Min.	Max.
A	0.525	0.600	0.021	0.024
A1	0.000	0.050	0.000	0.002
e	0.450	0.550	0.018	0.022
c	0.090	0.160	0.004	0.006
D	1.500	1.700	0.059	0.067
b	0.170	0.270	0.007	0.011
E1	1.100	1.300	0.043	0.051
E	1.500	1.700	0.059	0.067
L	0.100	0.300	0.004	0.012
L1	0.200	0.400	0.008	0.016
θ	10° _{REF.}		10° _{REF.}	

SOT-563 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.