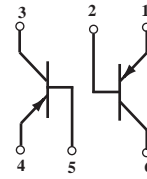


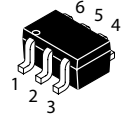
Epitaxial Planer Transistor

PNP Silicon

 Lead(Pb)-Free



PNP+PNP



SOT-363(SC-88)

Maximum Ratings

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	-50	Vdc
Collector-Base Voltage	V _{CB0}	-60	Vdc
Emitter-Base Voltage	V _{EB0}	-6.0	Vdc
Collector Current-Continuous	I _C	-150	mAdc

Thermal Characteristics

Characteristics	Symbol	Max	Unit
Total Device Dissipation ⁽¹⁾ TA=25°C	P _D	380	mW
Thermal Resistance, Junction to Ambient	R _{θJA}	328	°C/W
Junction and Storage, Temperature	T _J , T _{stg}	-55 to +150	°C

Device Marking

W4401DW=5K

Electrical Characteristics (TA=25°C Unless Otherwise noted)

Characteristics	Symbol	Min	Max	Unit
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Off Characteristics

Collector-Emitter Breakdown Voltage ⁽²⁾ (I _C =-1.0mAdc, I _B =0)	V(BR)CEO	-50	-	Vdc
Collector-Base Breakdown Voltage (I _C =-50 uAdc, I _E =0)	V(BR)CBO	-60	-	Vdc
Emitter-Base Breakdown Voltage (I _E =-50 uAdc, I _C =0)	V(BR)EBO	-6.0	-	Vdc
Emitter Cutoff Current (V _{EB} = -6.0 Vdc)	I _{EBO}	-	-0.1	nAdc
Collector Cutoff Current (V _{CB} = -60Vdc)	I _{CBO}	-	-0.1	nAdc

1. Device Mounted FR4 glass epoxy printed circuit board using the minimum recommended footprint.

2. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted) (Continued)

Characteristics	Symbol	Min	Typ	Max	Unit
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On Characteristics

DC Current Gain ($I_C = -1\text{mA}$, $V_{CE} = -6.0\text{Vdc}$)	h_{FE}	120	-	560	-
Collector-Emitter Saturation Voltage ($I_C = -50\text{mA}$, $I_B = -5.0\text{mA}$)	$V_{CE(sat)}$	-	-	-0.5	Vdc

Small-signal Characteristics

Current-Gain-Bandwidth Product ($I_E = 2.0\text{mA}$, $V_{CE} = -12\text{Vdc}$, $f = 300\text{MHz}$)	f_T	-	140	-	MHz
Output Capacitance ($V_{CB} = -12\text{Vdc}$, $f = 1.0\text{MHz}$)	Cobo	-	4.0	5.0	Pf

Electrical Characteristics Curve

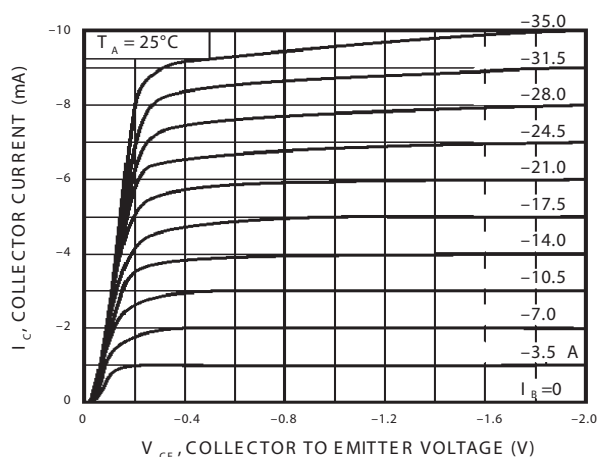
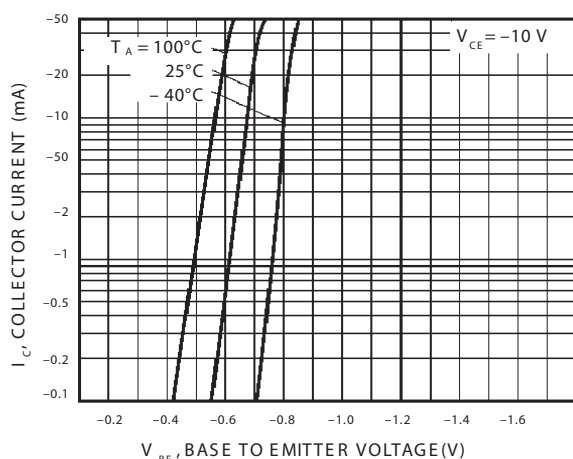


FIG.1 Grounded Emitter Propagation Characteristics FIG.2 Grounded Emitter Output Characteristics(I)

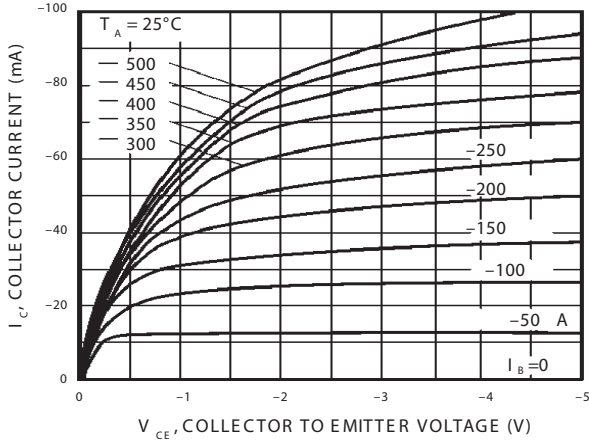


FIG.3 Grounded Emitter Output Characteristics(I)

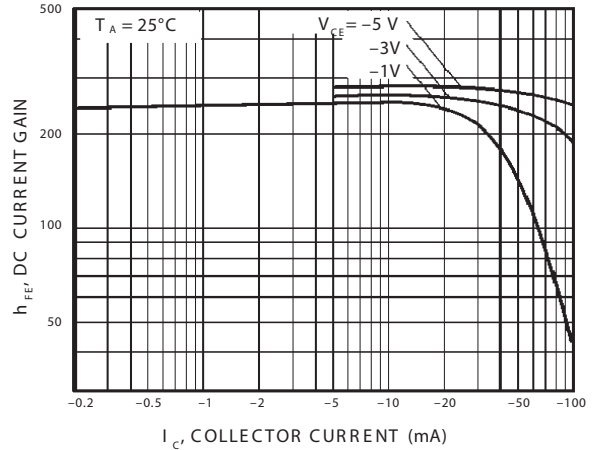


FIG.4 DC Current Gain vs. Collector Current (I)

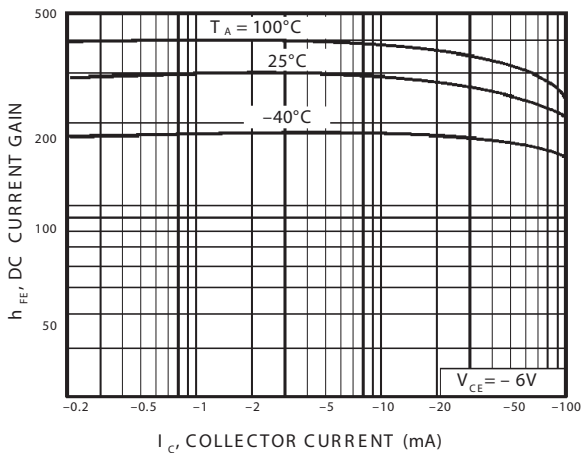


FIG.5 DC Current Gain vs. Collector Current (II)

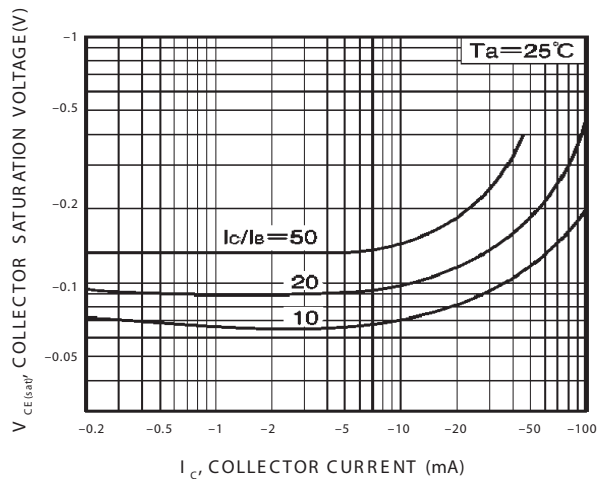


FIG.6 Collector-Emitter Saturation Voltage vs Collector Current (I)

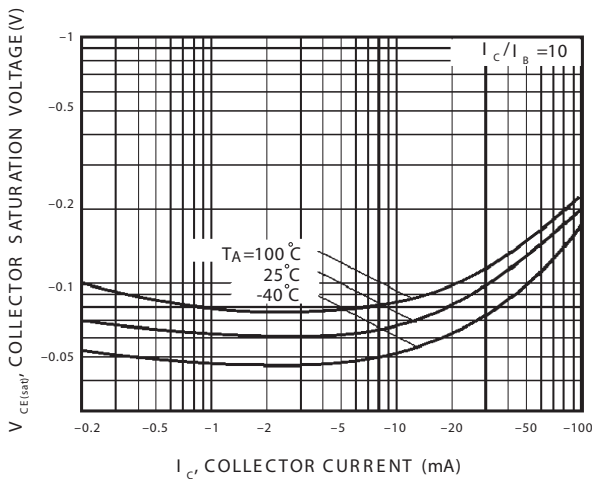


FIG.7 Collector-Emitter Saturation Voltage vs Collector Current (II)

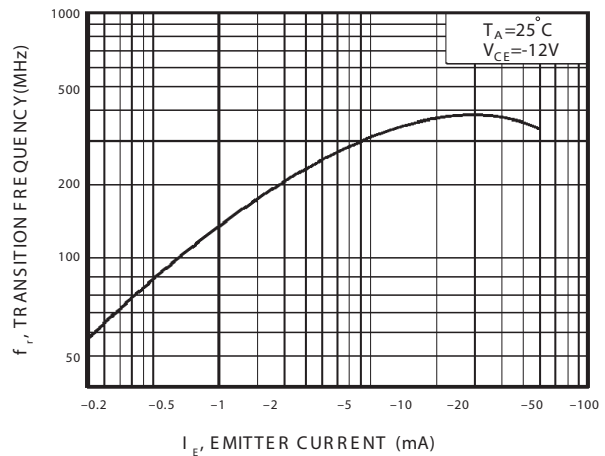
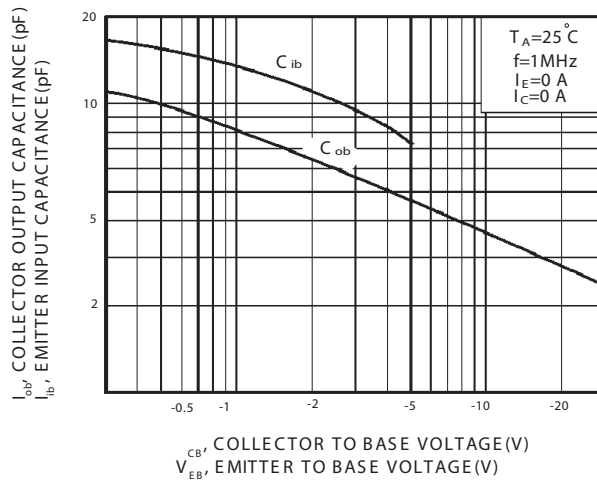


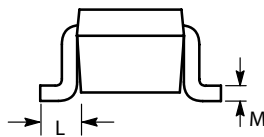
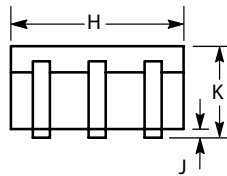
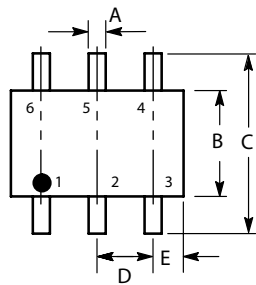
FIG.8 Gain Bandwidth Product vs Emitter Current



**FIG. 9 Collector Output Capacitance vs Collector-Base Voltage
Emitter Input Capacitance vs Emitter-Base Voltage**

SOT-363 Package Outline Dimensions

Unit:mm



SOT-363

Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 REF	
E	0.30	0.40
H	1.80	2.20
J	-	0.10
K	0.80	1.10
L	0.25	0.40
M	0.10	0.25