NPN Silicon Epitaxial Planar Transistor **2SC5964**

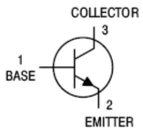
FEATURES

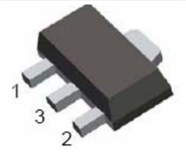
Lead-free

- Adoption of MBIT process.
- High current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.

APPLICATIONS

- DC / DC converter, relay drivers, lamp drivers, motor drivers, flash.





SOT-89

ORDERING INFORMATION

Type No.	Marking	Package Code
2SC5964		SOT-89

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter		Value	Units
V_{CBO}	Collector-Base Voltage		100	V
V_{CES}	Collector-Emitter Voltage		100	V
V_{CEO}	Collector-Emitter Voltage		50	V
V_{EBO}	Emitter-Base Voltage		6	V
I_C	Collector Current -Continuous		3	A
I_B	Base Current		600	mA
P_C	Collector Dissipation	Mounted on a ceramic board ($250mm^2$*0.8m)	1.3	W
		T_c=25°C	3.5	
T_j	Junction Temperature		150	℃
T_{stg}	Storage Temperature		-55 to +150	℃

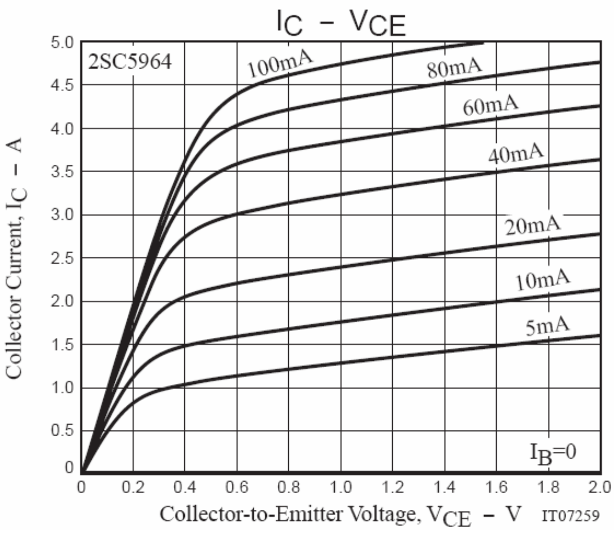
ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

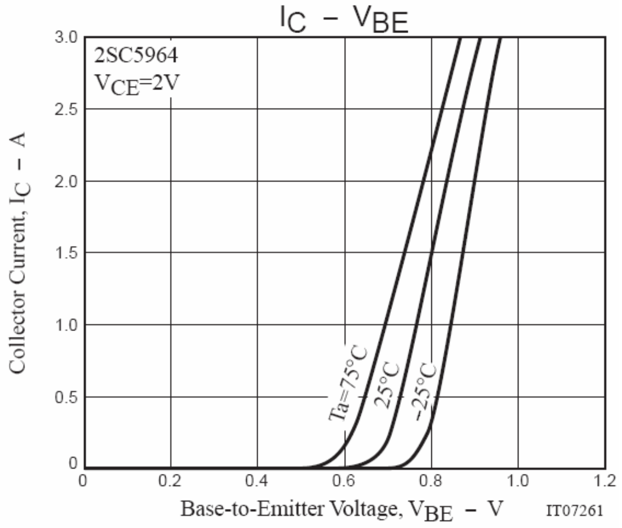
Parameter	**Symbol**	**Test conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10uA,I_B=0	100			V
Collector-emitter breakdown voltage	$V_{(BR)CES}$	I_C=100uA,R_{BE}=0	100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, $R_{BE}=\infty$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10uA,I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=40V,I_E=0			1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V,I_C=0			1	μA
DC current gain	h_{FE}	V_{CE}=2V,I_C=100mA	200		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1A, I_B=50mA I_C=2A, I_B=100mA		100 190	150 290	mV
Base-to-Emitterr Saturation Voltage	$V_{BE(sat)}$	V_{CE}=2V, I_B=100mA		0.94	1.2	V
Transition frequency	f_T	V_{CE}=10V,I_c=500mA		380		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz		13		pF

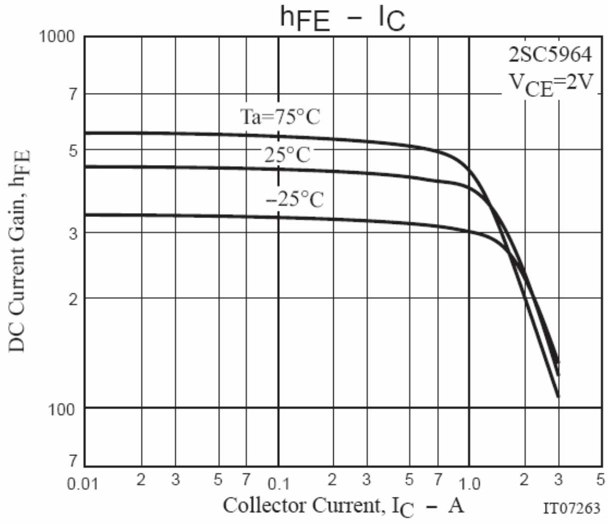
CLASSIFICATION OF h_{FE}

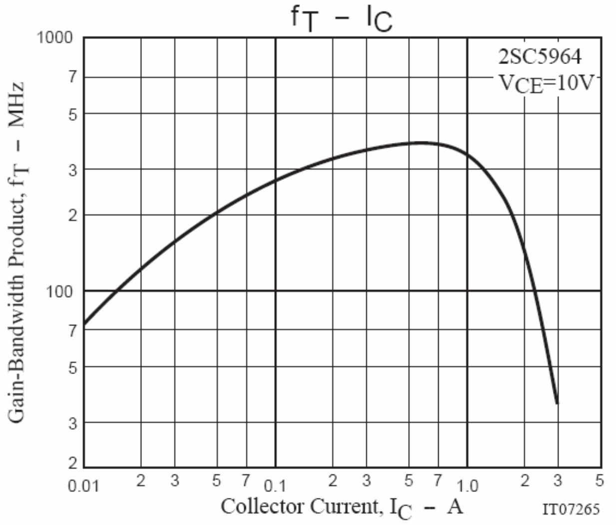
Rank	O	Y
Range	100-200	160-320
MARKING	GO	GY

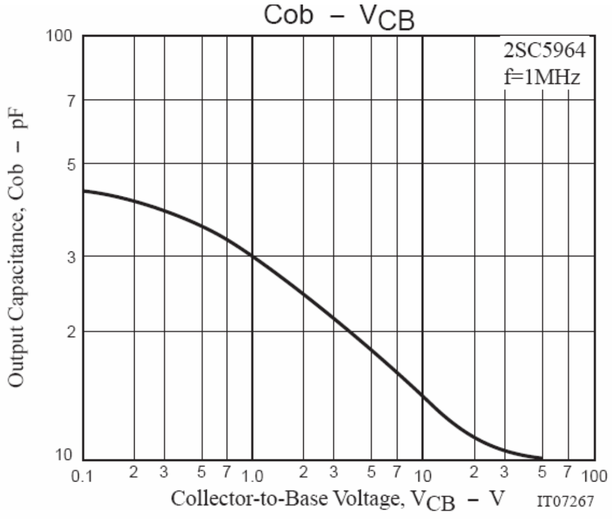
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

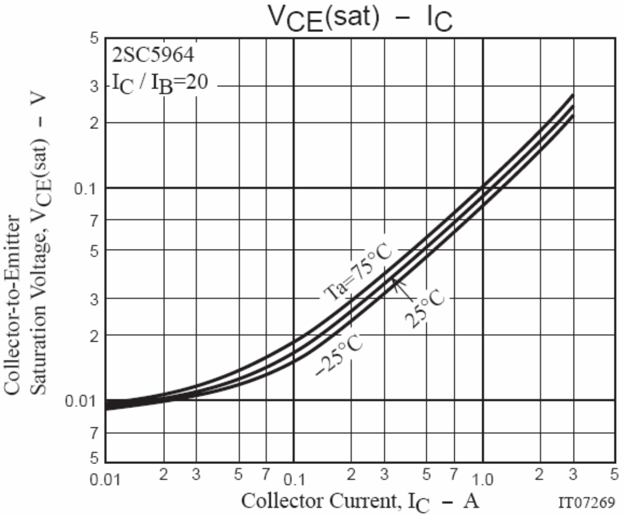












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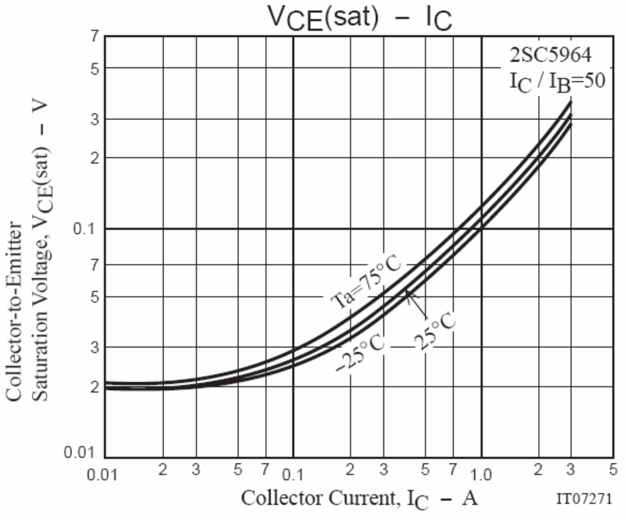

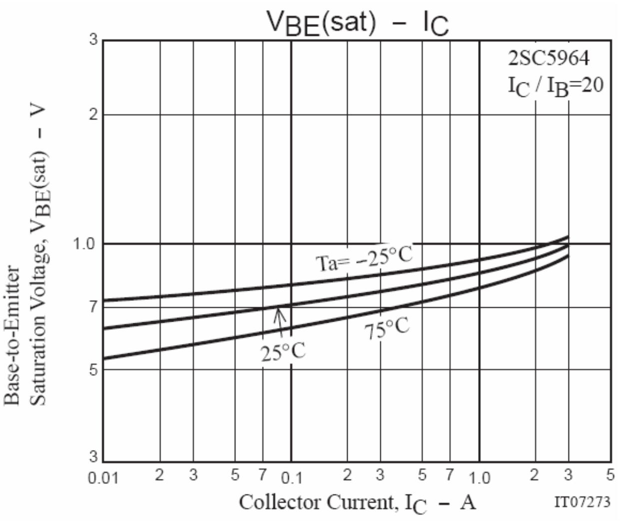

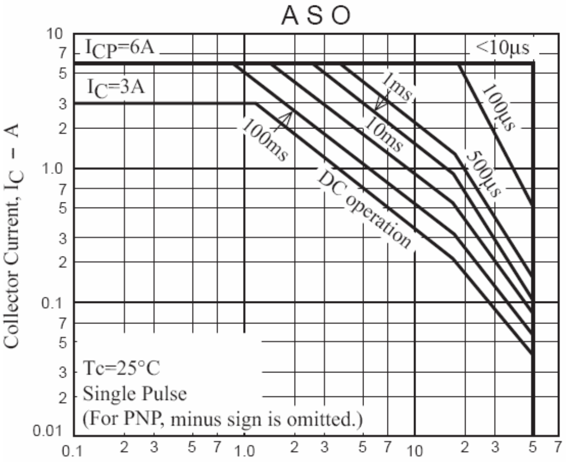

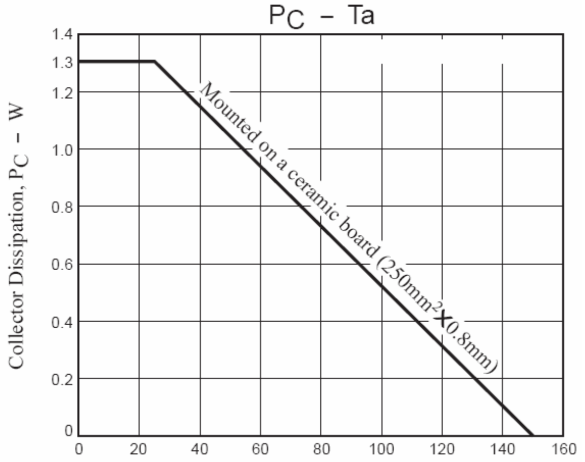

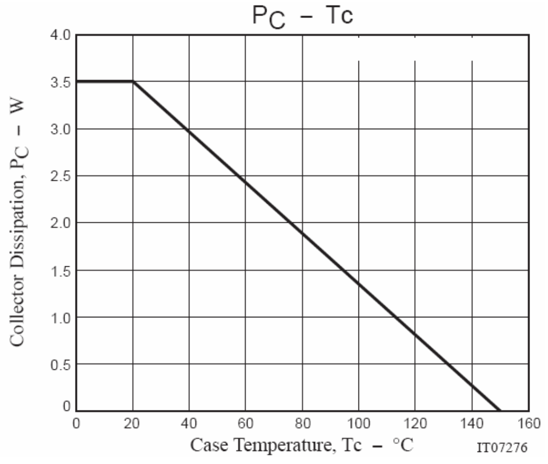

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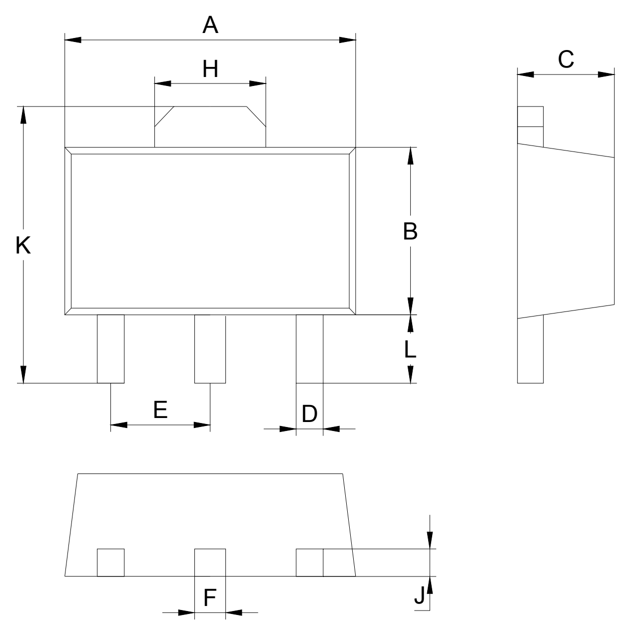
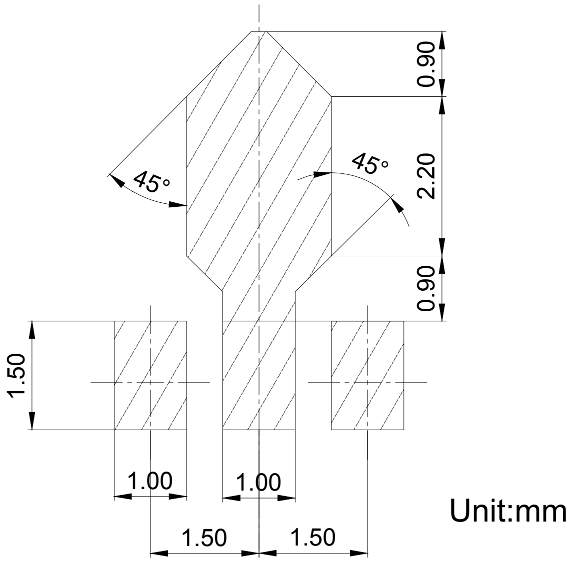
PACKAGE OUTLINE

Plastic surface mounted package SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.50 Typical	
D	0.40 Typical	
E	1.40	1.60
F	0.48 Typical	
H	1.60	1.80
J	0.40 Typical	
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SC5964	SOT-89	1000/Tape&Reel