

Medium Power Transistor

2SAR544R-3L

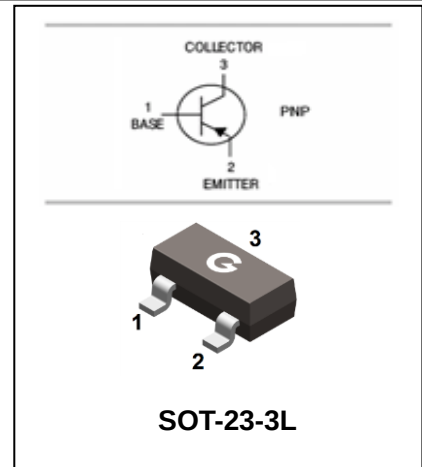
FEATURES

- Low saturation voltage, typically
 $V_{CE(sat)} = -0.4V$ (Max.) ($I_C / I_B = -1A / -50mA$).
- High speed switching

HF

APPLICATIONS

- Driver.



ORDERING INFORMATION

Type No.	Marking	Package Code
2SAR544R-3L	MS	SOT-23-3L

MAXIMUM RATING @ $T_a = 25^\circ C$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-80	V
V_{CEO}	Collector-Emitter Voltage	-80	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-2.5	A
P_D	Power Dissipation	0.5	W
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	$^\circ C$

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -1mA, I_E = 0$	-80	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -100\mu A, I_B = 0$	-80	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-6	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = 80V, I_E = 0$	-	-	-1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$	-	-	-1	μA
DC current gain	h_{FE}	$V_{CE} = -3V, I_C = -100mA$	120	-	390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1A, I_B = -50mA$	-	-200	-400	mV
Transition frequency	f_T	$V_{CE} = -10V, I_C = 0A$ $f = 1MHz$	-	280	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	32	-	pF

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TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

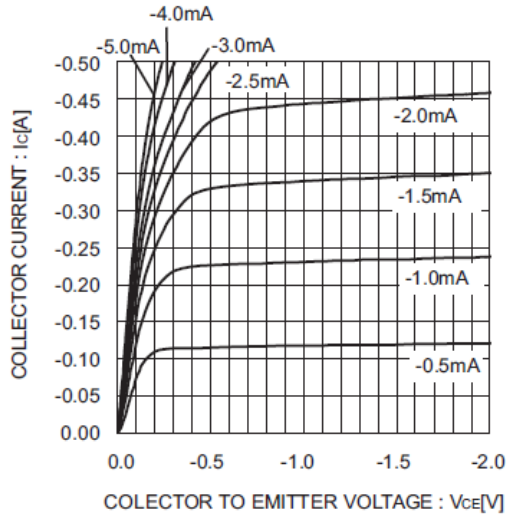


Fig.1 Typical Output Characteristics

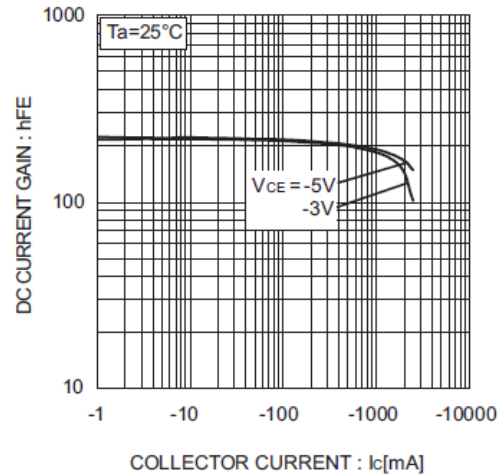


Fig.2 DC Current Gain vs. Collector Current (I)

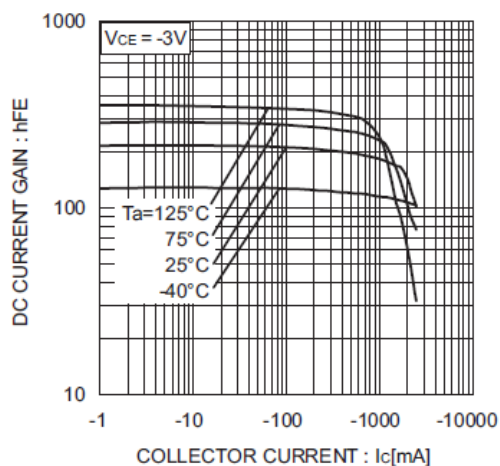


Fig3. DC Current Gain vs. Collector Current (II)

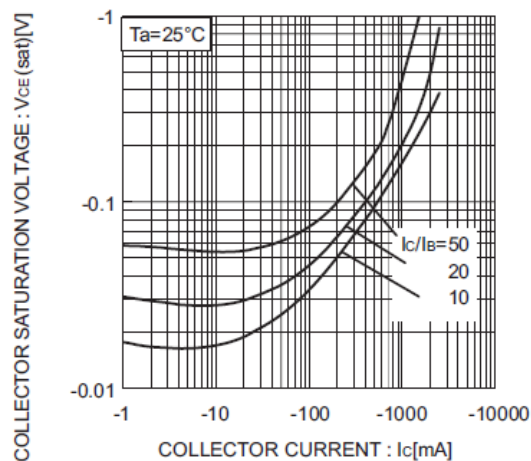


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (I)

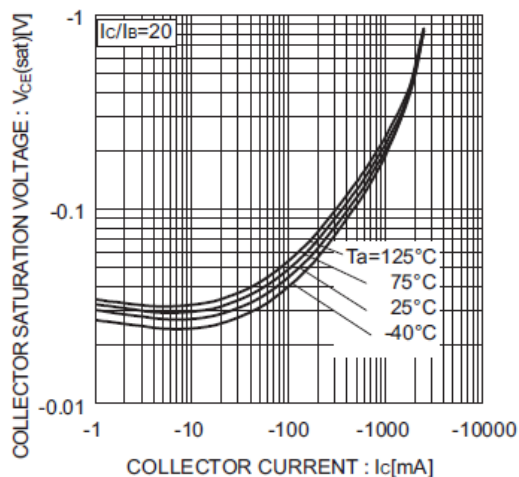


Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (II)

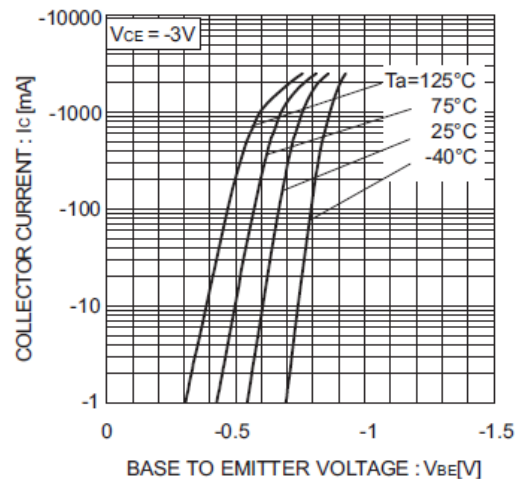


Fig.6 Ground Emitter Propagation Characteristics

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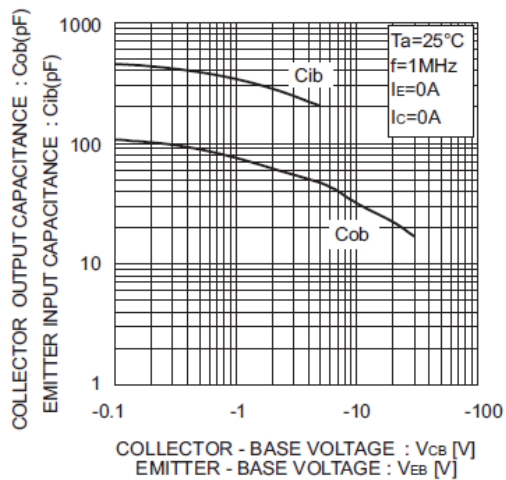


Fig.7 Emitter Input Capacitance vs.
 Emitter-Base Voltage
 Collector Output Capacitance vs.
 Collector-Base Voltage

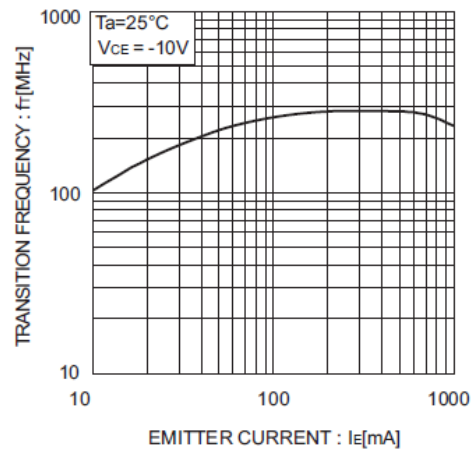


Fig.8 Gain Bandwidth Product vs.
 Emitter Current

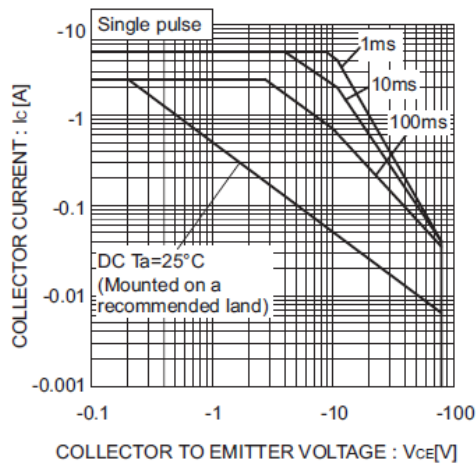


Fig.9 Safe Operating Area

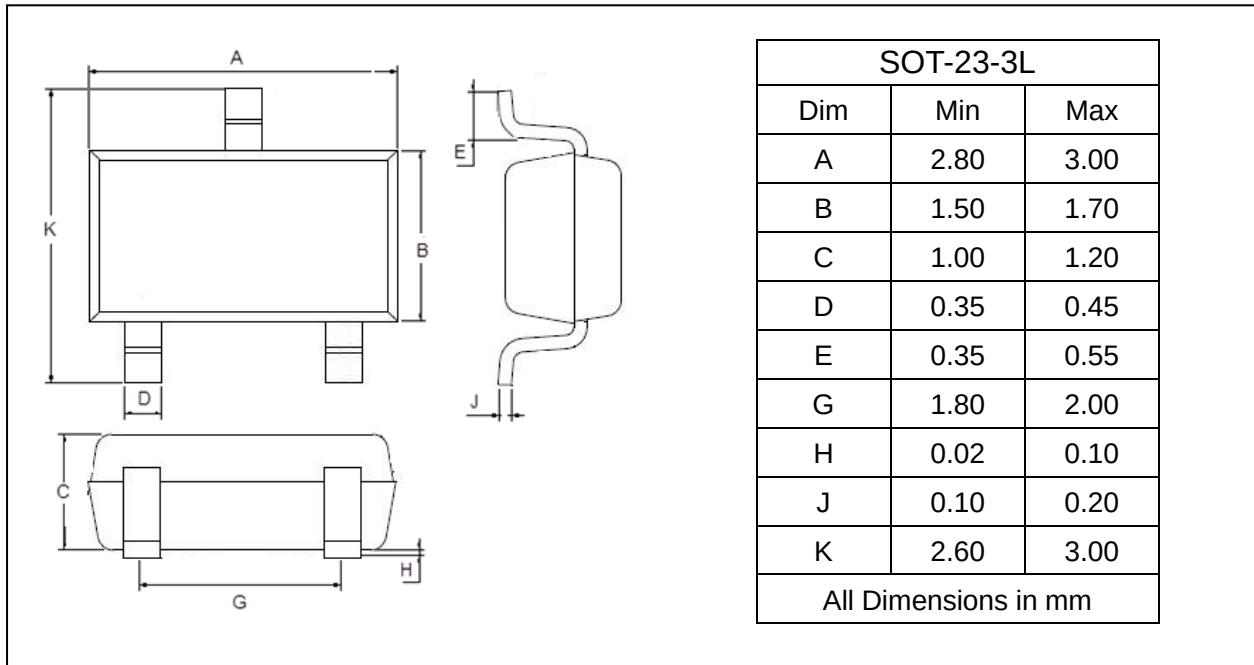
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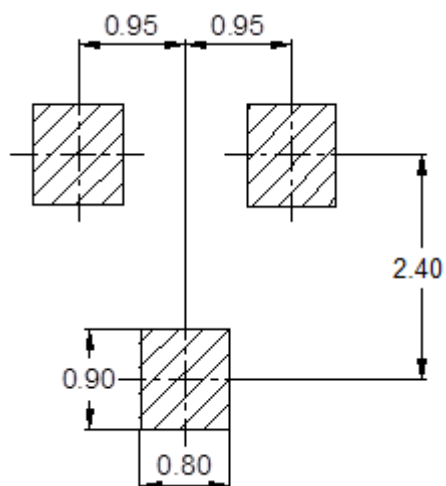
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23-3L



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SAR544R-3L	SOT-23-3L	3000 pcs / Tape & Reel