

DESCRIPTION The 2SA1460 is designed for power amplifier and high speed switching applications.

- FEATURES**
- High speed, high voltage switching.
 - Low Collector Saturation Voltage.
 - Complementary to the NEC 2SC3733 NPN transistor.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

Storage Temperature -55 to $+150$ °C

Junction Temperature 150 °C Maximum

Maximum Power Dissipation ($T_a = 25$ °C)

Total Power Dissipation 1.0 W

Maximum Voltages and Currents ($T_a = 25$ °C)

V_{CBO} Collector to Base Voltage -60 V

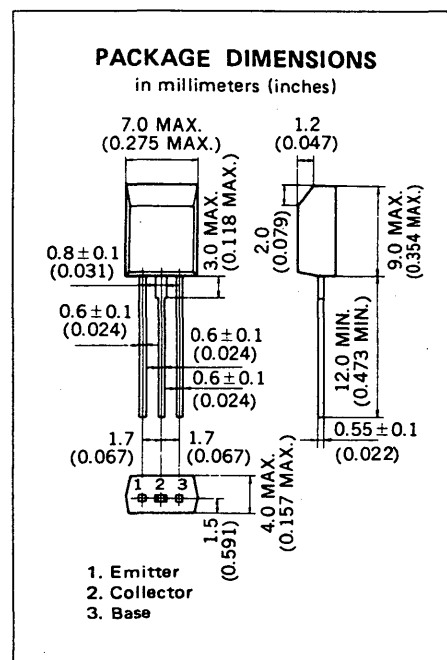
V_{CEO} Collector to Emitter Voltage -45 V

V_{EBO} Emitter Base Voltage -5.0 V

$I_{C(DC)}$ Collector Current (DC) -1.0 A

$I_{C(pulse)}$ Collector Current (pulse)* -2.0 A

* $PW \leq 10$ ms, Duty Cycle ≤ 50 %



ELECTRICAL CHARACTERISTICS ($T_a = 25$ °C)

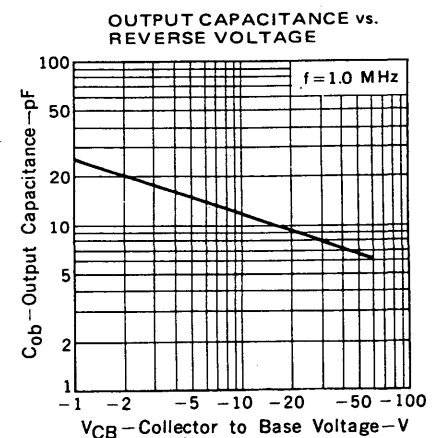
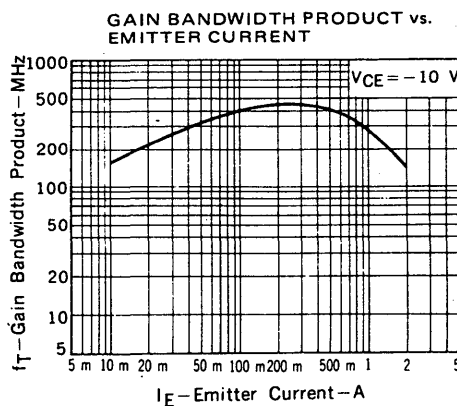
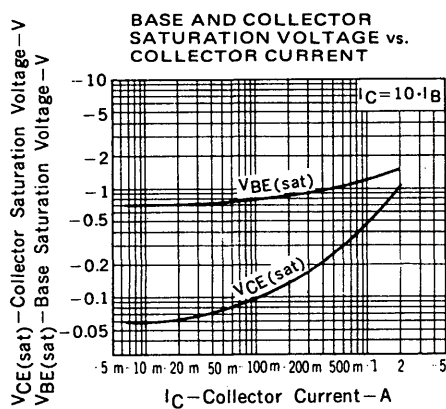
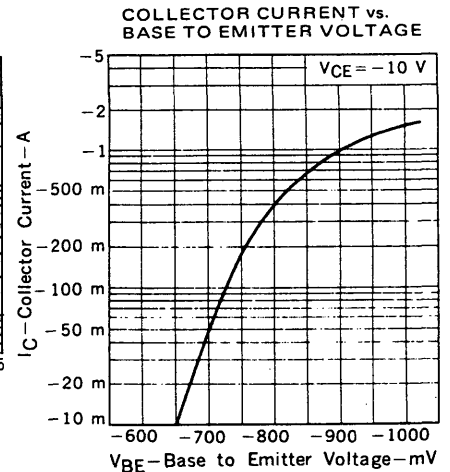
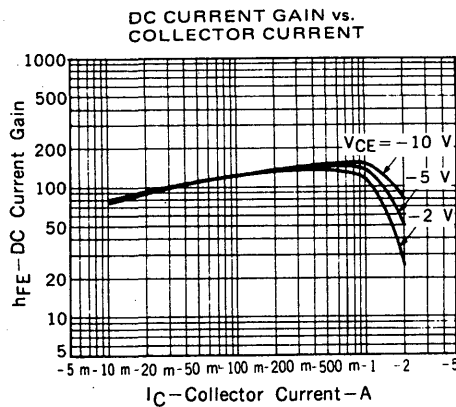
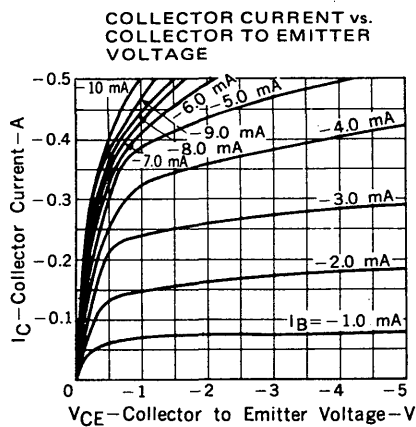
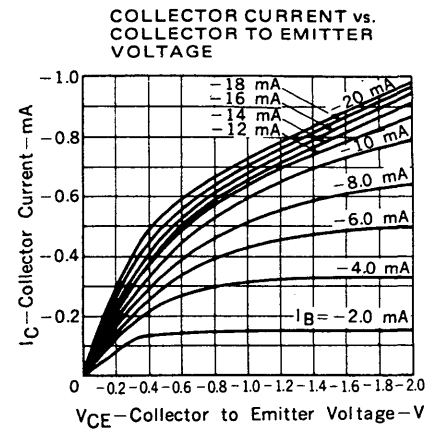
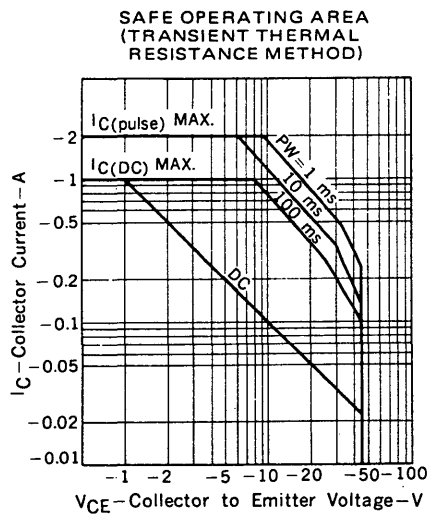
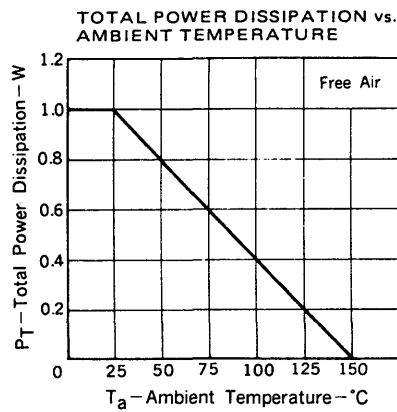
SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
t_{on}	Turn-on Time		25	40	ns	$V_{CC} = -10$ V $I_C = -500$ mA $I_{B1} = -I_{B2} = -50$ mA
t_{stg}	Storage Time		46	70	ns	
t_{off}	Turn-off Time		62	100	ns	
f_T	Gain Bandwidth Product	300	400		MHz	$V_{CE} = -10$ V, $I_E = 100$ mA
C_{ob}	Output Capacitance		11	25	pF	$V_{CB} = -10$ V, $I_E = 0$, $f = 1$ MHz
h_{FE1*}	DC Current Gain	60	120	200	—	$V_{CE} = -10$ V, $I_C = -50$ mA
h_{FE2*}	DC Current Gain	60	150		—	$V_{CE} = -10$ V, $I_C = -500$ mA
$V_{CE(sat)*}$	Collector Saturation Voltage		-0.26	-0.60	V	$I_C = -500$ mA, $I_B = -50$ mA
$V_{BE(sat)*}$	Base Saturation Voltage		-0.98	-1.20	V	$I_C = -500$ mA, $I_B = -50$ mA
I_{CES}	Collector Cutoff Current			-0.5	μ A	$V_{CB} = -45$ V, $R_{BE} = 0$
I_{EBO}	Emitter Cutoff Current			-0.5	μ A	$V_{EB} = -4.0$ V, $I_C = 0$

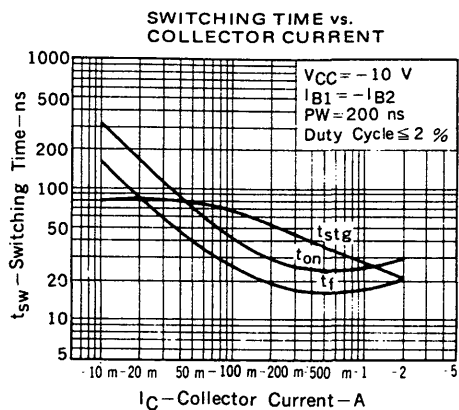
* Pulsed $PW \leq 350$ μ s, Duty Cycle ≤ 2 %

Classification of h_{FE1}

Rank	L	K
Range	60 to 120	100 to 200

h_{FE1} Test Conditions: $V_{CE} = -10$ V, $I_C = -50$ mA

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



SWITCHING TIME TEST CIRCUIT

