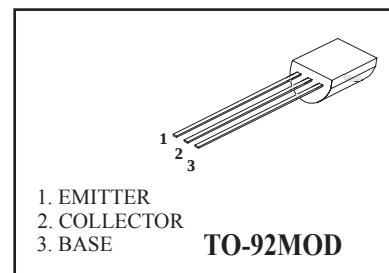
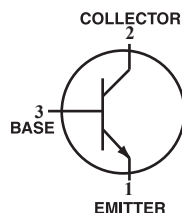


NPN General Purpose Transistors

(Pb) Lead(Pb)-Free



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	25 50	Vdc
Collector-Base Voltage	V_{CBO}	30 60	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	Vdc
Collector Current-Continuous	I_C	1.0	Adc
Peak Collector Current	$I_{cp}(DC)$	1.5	Adc

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Total Device Dissipation Alumina Substrate, (1) $T_A=25^{\circ}C$ Derate above $25^{\circ}C$	P_D	1.0 8.0	W mW/ $^{\circ}C$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	125	$^{\circ}C/W$
Junction and Storage, Temperature	T_J, T_{stg}	-55 to +150	$^{\circ}C$

DEVICE MARKING

2SC1383=2SC1383, 2SC1384=2SC1384

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C=2.0mA$, $I_B=0$)	2SC1383 2SC1384	$V_{(BR)CEO}$	25 50	-	Vdc
Collector-Base Breakdown Voltage ($I_C=10\mu A$, $I_E=0$)	2SC1383 2SC1384	$V_{(BR)CBO}$	30 60	-	Vdc
Emitter-Base Breakdown Voltage ($I_E=10\mu A$, $I_C=0$)		$V_{(BR)EBO}$	5.0	-	Vdc
Collector Cutoff Current ($V_{CB}=20V$, $I_E=0$)		I_{CBO}	-	0.1	μA

1. Alumina=0.4 x 0.3 x 0.024 in. 99.5% alumina

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

Characteristics	Symbol	Min	Max	Unit
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ON CHARACTERISTICS

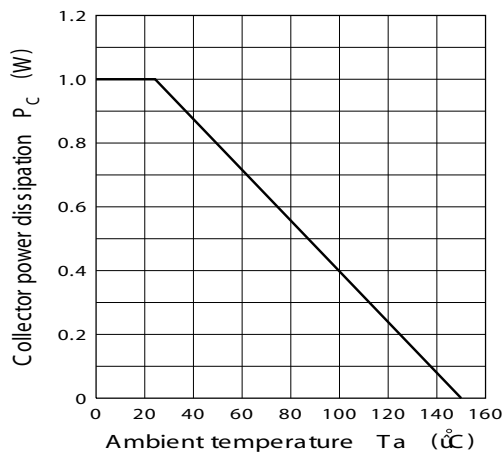
DC Current Gain ($I_C=500\text{ mA}$, $V_{CE}=10\text{ Vdc}$) ($I_C=1.0\text{ A}$, $V_{CE}=5.0\text{ Vdc}$)	$h_{FE}^{(1)}$	85	340	-
	$h_{FE}^{(2)}$	50	-	-
Collector-Emitter Saturation Voltage ($I_C=500\text{ mA}$, $I_B=50\text{ mA}$)	$V_{CE(sat)}$	-	0.4	Vdc
Base-Emitter Saturation Voltage ($I_C=500\text{ mA}$, $I_B=50\text{ mA}$)	$V_{BE(sat)}$	-	1.2	Vdc

SMALL-SIGNAL CHARACTERISTICS

Current-Gain-Bandwidth Product ($I_C=50\text{ mA}$, $V_{CE}=10\text{ Vdc}$, $f=30\text{ MHz}$)	f_T	100	-	MHz
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CLASSIFICATION OF h_{FE}

Rank	Q	R	H
Range	85-170	120-240	170-340



**FIG1. Total Power Dissipation
Vs Ambient Temperature**

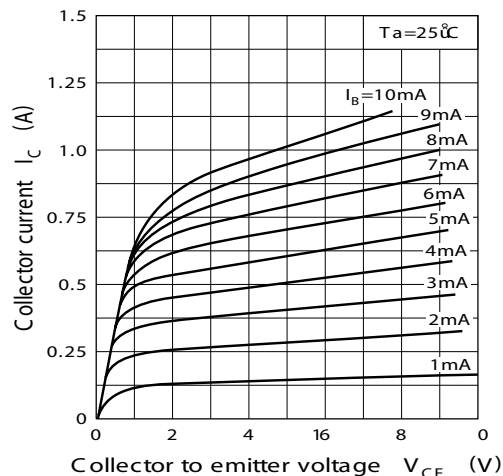
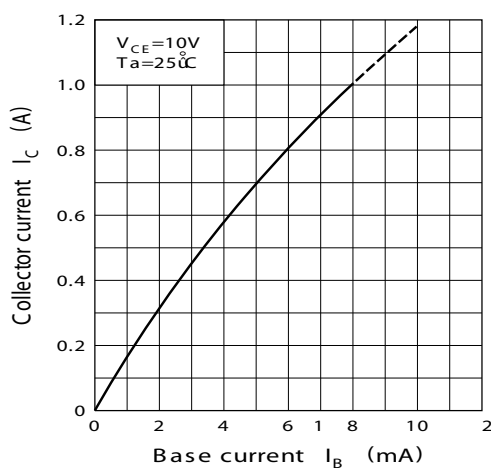
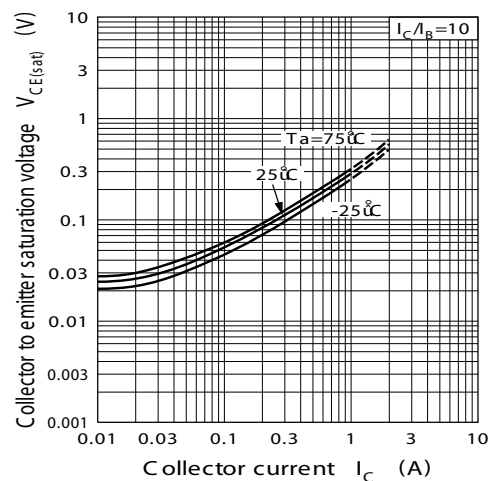


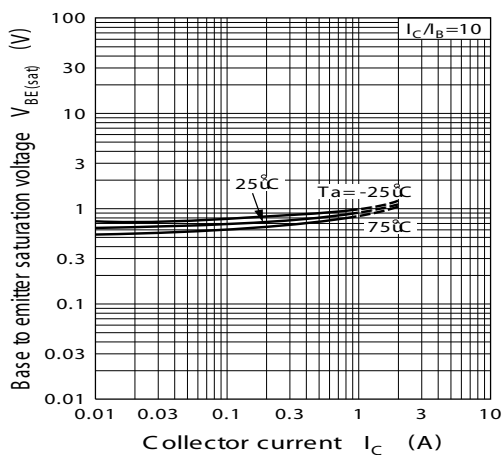
FIG2. Static Characteristic



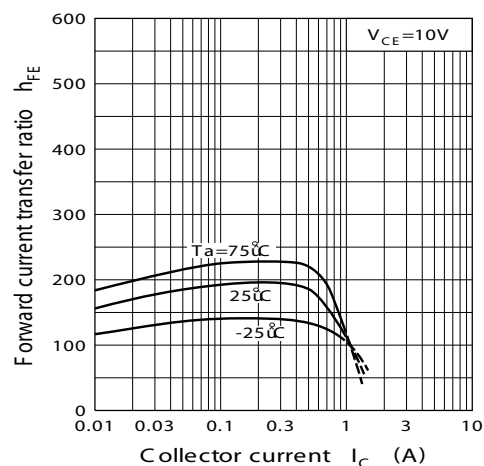
**FIG3. Collect Current Vs
Base Current**



**FIG4. Collector-Emitter
Saturation Voltage**



**FIG 5. Base-Emitter Saturation
Voltage**



**FIG6. Current Gain Bandwidth
Product**

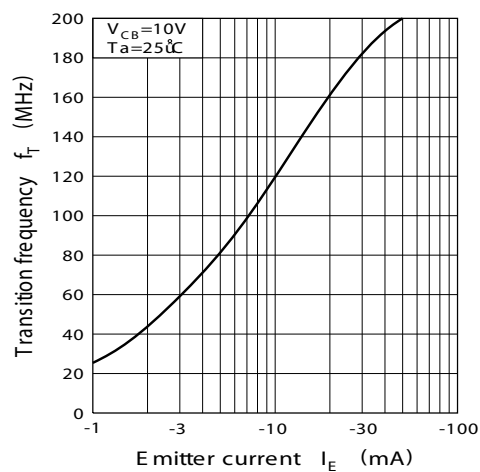


FIG7. Current-Gain-Bandwidth

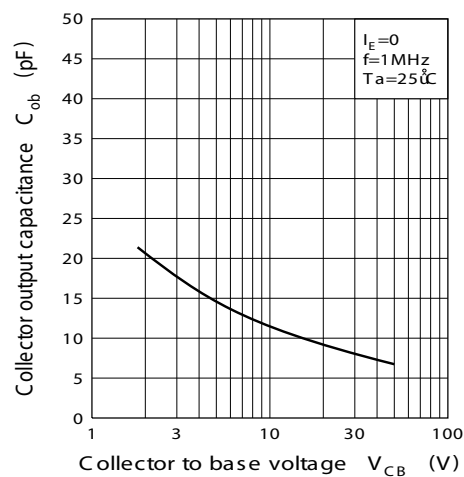


FIG9. Capacitance

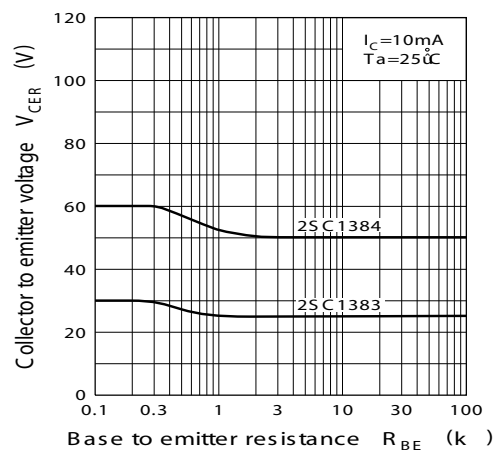
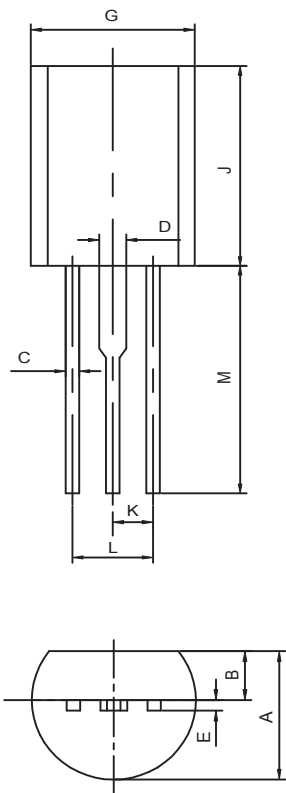


FIG9. V_{CER} VS R_{BE}

TO-92MOD Outline Dimensions

unit:mm



TO-92MOD		
Dim	Min	Max
A	4.700	5.100
B	1.730	2.030
C	0.400	0.600
D	0.900	1.100
E	0.400	0.500
G	5.800	6.200
J	8.400	8.800
K	1.500TYP	
L	2.900	3.100
M	12.20	13.450