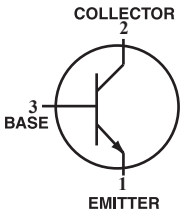
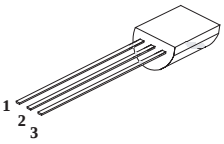
WEITRON

2SC1383/2SC1384

NPN General Purpose Transistors

*** "G" Lead(Pb)-Free**





1. EMITTER
2. COLLECTOR
3. BASE

TO-92MOD

MAXIMUM RATINGS

Rating	Symbol		Value	Unit
Collector-Emitter Voltage	V_{CEO}	2SC1383 2SC1384	25 50	Vdc
Collector-Base Voltage	V_{CBO}	2SC1383 2SC1384	30 60	Vdc
Emitter-Base VOltage	V_{EBO}		5.0	Vdc
Collector Current-Continuous	I_C		1.0	Adc
Peak Collector Current	**Icp(DC)**		1.5	**Adc**

THERMAL CHARACTERISTICS

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

DEVICE MARKING

2SC1383=2SC1383, 2SC1384=2SC1384

ELECTRICAL CHARACTERISTICS

Characteristics		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I_C=2.0mAdc .I_B=0)	2SC1383 2SC1384	$V_{(BR)CEO}$	25 50	- -	Vdc
Collector-Base Breakdown Voltage (I_C=10 μAdc.I_E=0)	2SC1383 2SC1384	$V_{(BR)CBO}$	30 60	- -	Vdc
Emitter-Base Breakdown Voltage (I_E=10 μAdc.I_C=0)		$V_{(BR)EBO}$	5.0	- -	Vdc
Collector Cutoff Current (V_{CB}=20 Vdc,I_E=0)		I_{CBO}	-	0.1	uAdc

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

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted) (Countinued)

Characteristics	Symbol	Min	Max	Unit

ON CHARACTERISTICS

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

SMALL-SIGNAL CHARACTERISTICS

Current-Gain-Bandwidth Product (I_C=50 mAdc, V_{CE}=10 Vdc, f=30MHz)	f_T	100	- -	MHz

CLASSIFICATION OF h_{FE}

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

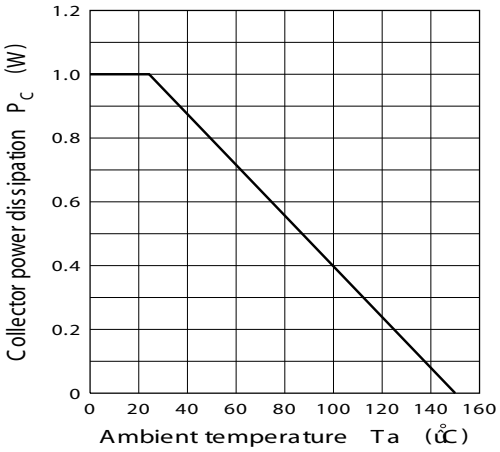


FIG1. Total Power Dissipation Vs Ambient Temperature

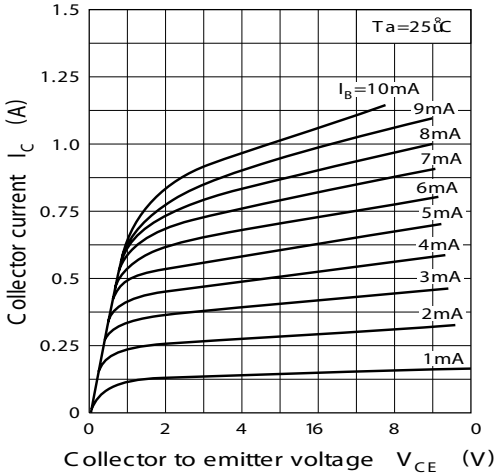


FIG2. Static Characteristic

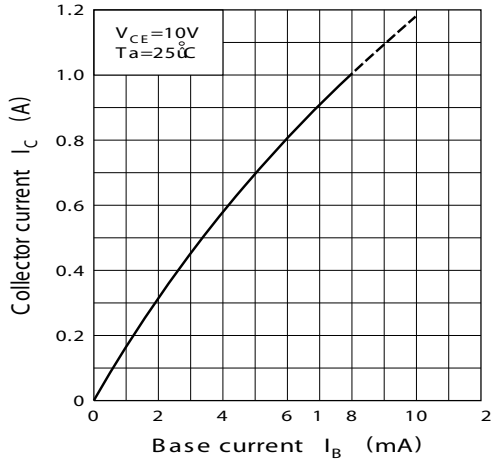


FIG3. Collect Current Vs Base Current

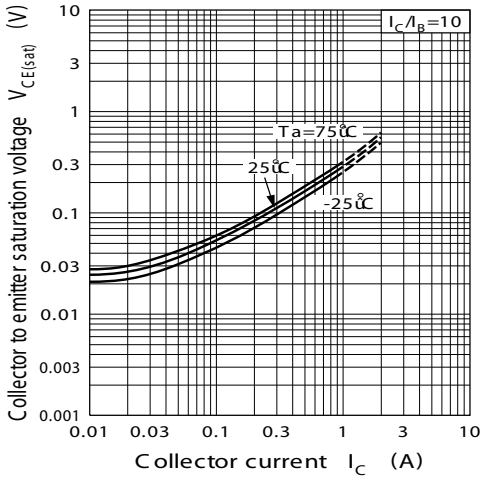


FIG4. Collector-Emitter Saturation Voltage

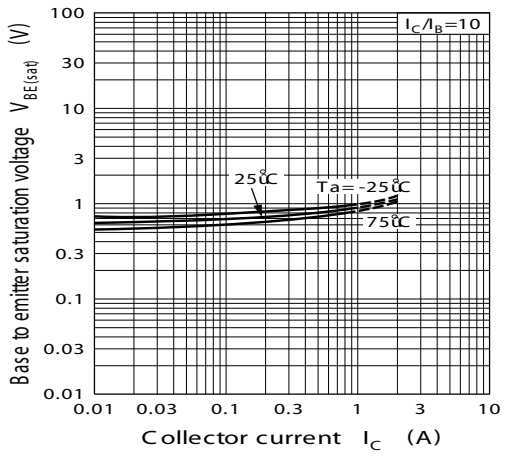


FIG 5. Base-Emitter Saturation Voltage

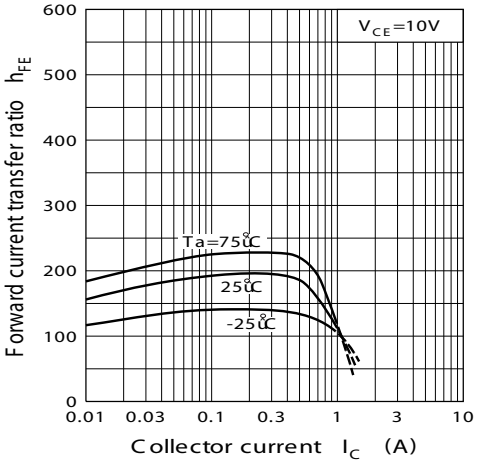


FIG6. Current Gain Bandwidth Product

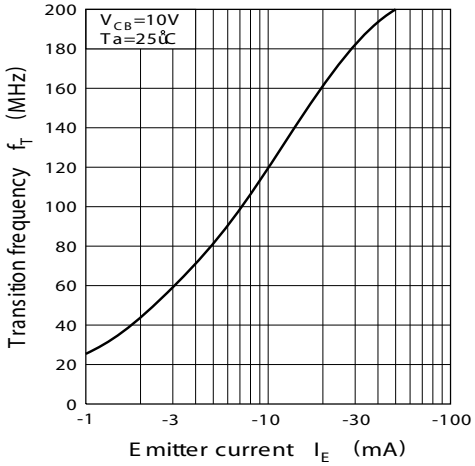


FIG7. Current-Gain-Bandwidth

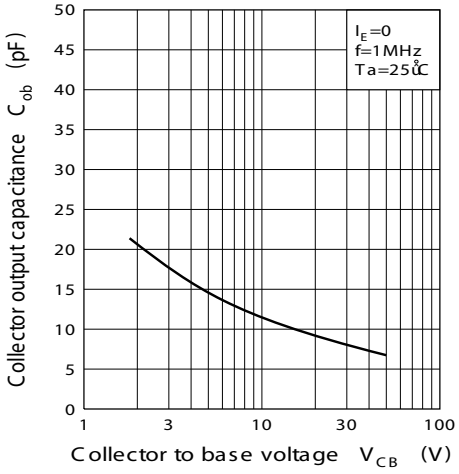


FIG9. Capacitance

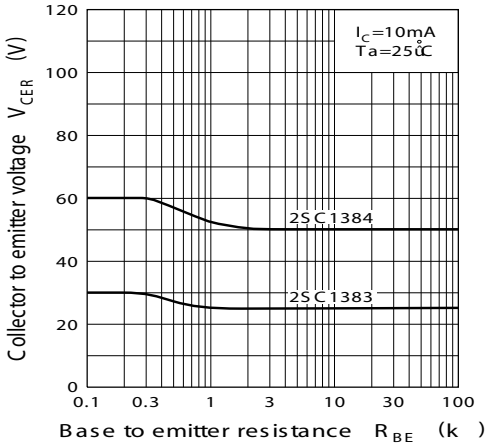
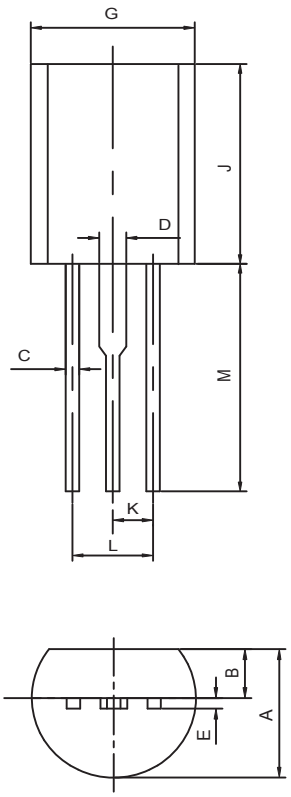


FIG9. V_{CER} VS R_{BE}

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