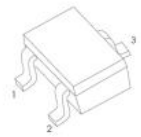
NPN Tranistors

■ Features

- High Voltage and Current
- High DC Current Gain
- Small Package
- Complementary to 2SA1832

SOT-523



1. BASE
2. EMITTER
3. COLLECTOR

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	60	V
Collector - Emitter Voltage	V_{CEO}	50	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	150	mA
Collector Power Dissipation	P_C	100	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	1250	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA, I_E= 0	60			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA, I_B= 0	50			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μA, I_C= 0	5			
Collector-base cut-off current	I_{CBO}	V_{CB}= 60V , I_E= 0			0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 5V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100mA, I_B=10mA			0.25	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=100mA, I_B=10mA			1.2	
DC current gain	h_{FE}	V_{CE}= 6V, I_C= 2mA	120		700	
Collector output capacitance	C_{ob}	V_{CB}= 10V, I_E= 0,f=1MHz			3.5	pF
Transition frequency	f_T	V_{CE}= 10V, I_C= 1mA	80			MHz

■ Classification of h_{fe}

Type	2SC4738-Y	2SC4738-G	2SC4738-BL
Range	120-240	200-400	350-700
Marking	LY	LG	LL

■ Typical Characterisitics