

Transistors

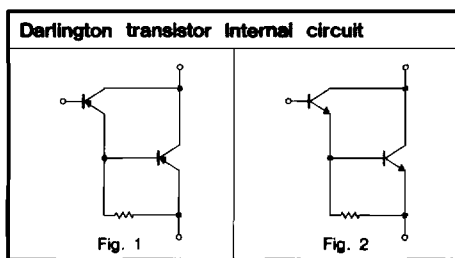
FTR • FTL

Low profile flat-package for limited space applications.

Taped type can be used on automated line. Bulk type is also available.

Application	Package		V_{CE0} (V) * V_{CES} ** V_{CER}	I_c (mA)	I_c Max. (A)	P_c (mW) ($T_a = 25^\circ\text{C}$)	h_{FE}	h_{FE} Ranking code	V_{CE} (V)	I_c (mA)	Internal circuit
	FTR	FTL									
	Part No.										
Low Noise	2SA937ALN	—	-50	-150	—	300	180~560	R S	-6	-1	—
	2SB821	☆2SB1276	-40	-300	—	250	120~560	Q R S	-6	-10	—
	2SC1613A	☆2SC4034	80	50	—	150	120~560	Q R S	3	5	—
	2SC2021LN	—	40	150	—	300	390~820	E	6	1	—
Pre Amp	2SA785	2SA1554	-80**	-50	—	150	82~270	P Q	-3	-10	—
	2SA937A	2SA1561A	-50	-150	—	300	82~390	P Q R	-6	-1	—
	2SC2021	2SC4038	40	150	—	300	390~820	E	6	1	—
	2SC4775	2SC4777	50	150	—	300	120~560	Q R S	6	1	—
Driver	2SA874	2SA1559	-32	-500	—	300	82~390	P Q R	-3	-100	—
	2SA881	2SA1560	-32	-1000	—	600	82~390	P Q R	-3	-100	—
	2SB822	2SB1277	-32	-2000	-3000	750	82~390	P Q R	-3	-500	—
	2SB851	2SB1278	-80	-700	—	750	82~390	P Q R	-3	-100	—
	2SB1199	2SB1279	-15	-200	—	300	56~	—	-3	-100	—
	2SC1652	2SC4037	32	500	—	400	82~390	P Q R	3	100	—
	2SC2673	2SC4040	32	1000	—	600	82~390	P Q R	3	100	—
	2SD1055	2SD1919	32	2000	2500	750	82~390	P Q R	3	500	—
	2SD1787	2SD1921	50	500	—	400	82~390	P Q R	3	100	—
	2SD2168	2SD2169	31 ± 4	2000	3000	500	82~270	P Q	3	500	—
Low $V_{CE(sat)}$	—	2SB1428	-20	-3000	-5000	600	82~390	P Q R	-2	-100	—
	2SD1469	2SD1920	15	1000	—	600	120~560	Q R S	3	100	—
	—	2SD2154	20	3000	5000	600	120~560	Q R S	2	100	—
Indicator Driver High Voltage SW	2SA806	2SA1558	-210**	-30	—	150	56~270	N P Q	-3	-5	—
	2SC1615	2SC4036	210**	30	—	150	56~270	N P Q	3	5	—
Darlington	2SA790	2SA1555	-32*	-300	-1500	300	5k~	—	-5	-100	Fig. 1
	2SC1545	2SC4032	32*	300	1500	300	5k~	—	5	100	Fig. 2
High h_{FE}	2SD2145	2SD2191	20	500	1000	400	560~2700	U V W	3	10	—
High V_{EBO}	2SD2312	2SD2314	50	150	200	400	560~2700	U V W	5	1	—

Note: ☆ Under development



FTR • FTL High frequency type

Application	Package		V_{CE0} (V)	I_c (mA)	f_r (MHz)	C_{ob} (pF)	h_{FE}	h_{FE} Ranking code	V_{CE} (V)	I_c (mA)
	FTR	FTL								
	Part No.									
FM IF AM RF	2SC2063	2SC4039	25	50	300	1.6	56~270	N P Q	6	1
TV Tuner	2SC3080	2SC4041	19	50	1100	1.2	39~270	M N P Q	10	5
Mix. Osc.	2SC4045	—	11	50	3200	1.1	27~270	L M N P Q	10	5

●Product Designation

- When ordering, specify the type.
- Check each code against the tables shown below.
- Fill a space with the next character.



Part No.

Special code

- Omit for standard product.
- Factory assigned for custom product.

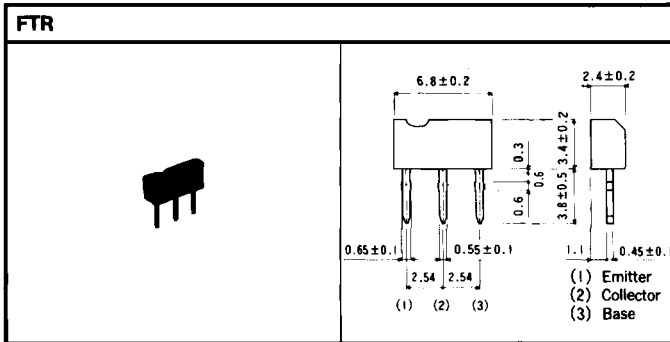
Packaging

Package	Code	Package specifications	Quantity / Package (pcs)
FTR	None	Bulk	2,000
	C1	Tube	8,000 (80pcs × 100)
FTL	TL2	Ammo box	2,500
	TL3		
	TL4		

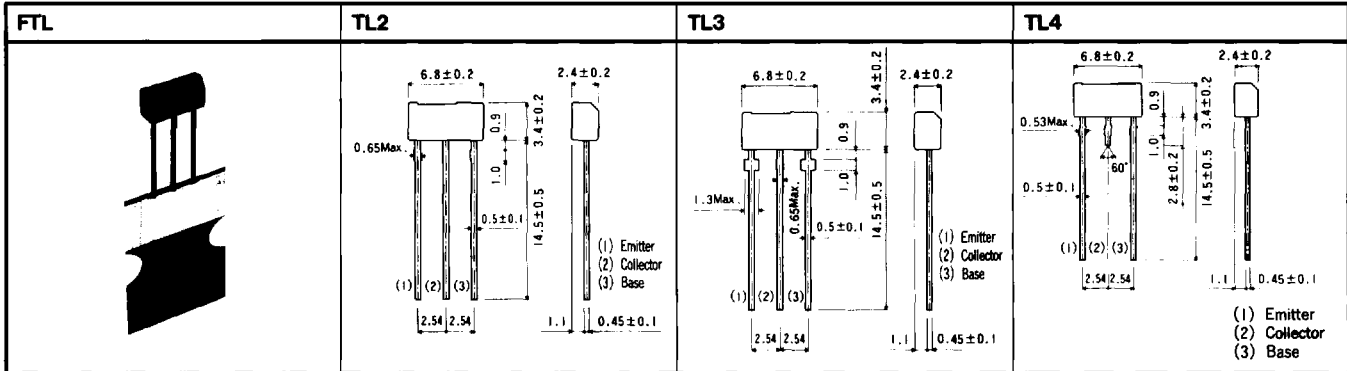
hFE Ranking code

Input hFE rank signal display
 One rank preferred P
 Multiple rank preferred P R
 (Min., Max. is displayed)

Code	hFE Range	Code	hFE Range
L	27~56	E	390~820
M	39~82	U	560~1200
N	56~120	V	820~1800
P	82~180	W	1200~2700
Q	120~270	A	1k~
R	180~390	B	5k~
S	270~560	C	10k~



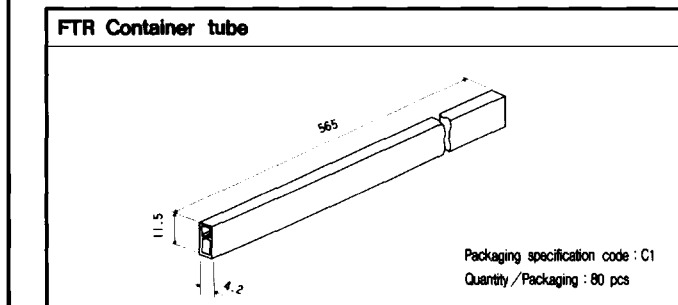
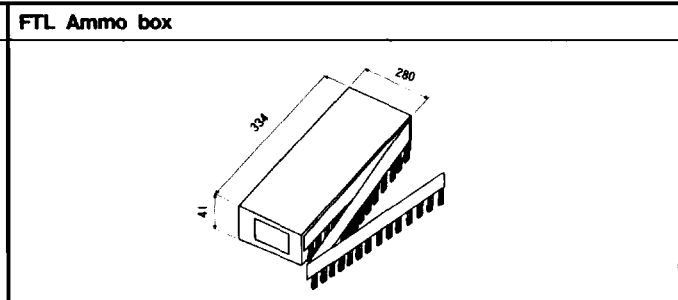
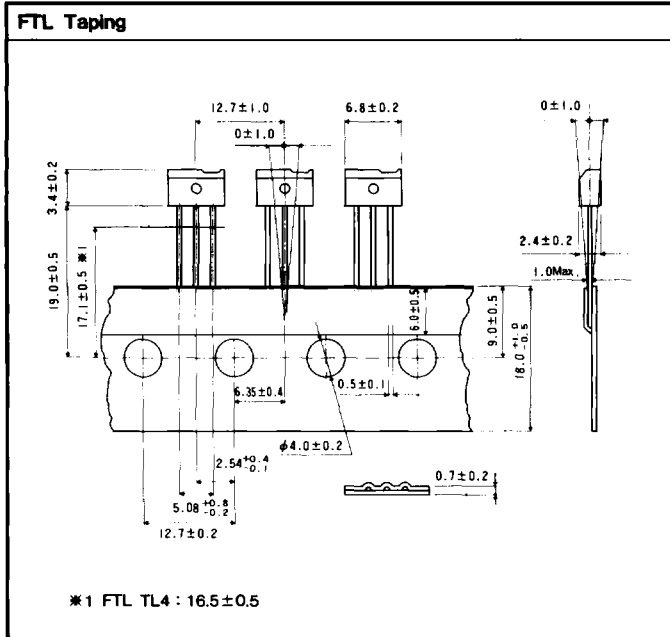
(Unit : mm)



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●Packaging Specifications

(Unit : mm)



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The Class and Grade marking rules for Standard and Special Product Units