

Discrete MOSFET - Medium Voltage

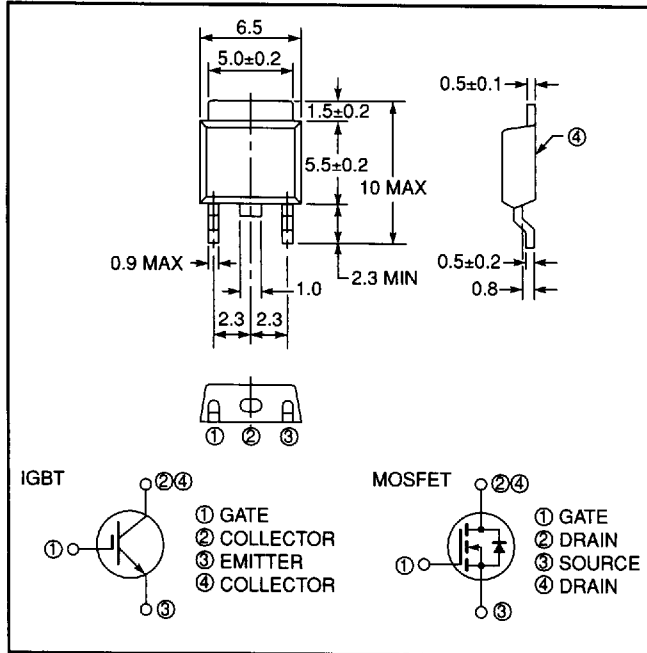
FS Series MOSFETs (250 ~ 450V)

Device Number	Maximum Ratings, $T_c = 25^\circ\text{C}$				Electrical Characteristics				Package	
	V_{DS} (V)	I_D (A)	P_D (W)	V_{GS} (V)	$r_{DS(on)}$ (Ω)		$V_{GS(th)}$ (V)	C_{iss} (pF)	Outline	Page
					Typ.	Max.				
FS5UM-5	250	5	60	± 30	1.0	1.3	3	270	TO-220	31
FS5VS-5	250	5	60	± 30	1.0	1.3	3	270	TO-220S	31
FS5KM-5	250	5	30	± 30	1.0	1.3	3	270	TO-220FN	31
FS7UM-5	250	7	75	± 30	0.63	0.80	3	370	TO-220	31
FS7VS-5	250	7	75	± 30	0.63	0.80	3	370	TO-220S	31
FS7KM-5	250	7	30	± 30	0.63	0.80	3	370	TO-220FN	31
FS10UM-5	250	10	90	± 30	0.40	0.52	3	570	TO-220	31
FS10VS-5	250	10	90	± 30	0.40	0.52	3	570	TO-220S	31
FS10KM-5	250	10	35	± 30	0.40	0.52	3	570	TO-220FN	31
FS12UM-5	250	12	100	± 30	0.32	0.40	3	720	TO-220	31
FS12VS-5	250	12	100	± 30	0.32	0.40	3	720	TO-220S	31
FS12KM-5	250	12	35	± 30	0.32	0.40	3	720	TO-220FN	31
FS16UM-5	250	16	125	± 30	0.19	0.25	3	1050	TO-220	31
FS16VS-5	250	16	125	± 30	0.19	0.25	3	1050	TO-220S	31
FS16KM-5	250	16	35	± 30	0.19	0.25	3	1050	TO-220FN	31
FS16SM-5	250	16	125	± 30	0.19	0.25	3	1050	TO-3P	32
FS20UM-5	250	20	150	± 30	0.15	0.19	3	1400	TO-220	31
FS20VS-5	250	20	150	± 30	0.15	0.19	3	1400	TO-220S	31
FS20KM-5	250	20	40	± 30	0.15	0.19	3	1400	TO-220FN	31
FS20SM-5	250	20	150	± 30	0.15	0.19	3	1400	TO-3P	32
FS30SM-5	250	30	250	± 30	0.10	0.13	3	2100	TO-3P	32
FS40SM-5	250	40	275	± 30	0.066	0.086	3	2850	TO-3P	32
FS5UM-6	300	5	60	± 30	1.2	1.6	3	270	TO-220	31
FS5VS-6	300	5	60	± 30	1.2	1.6	3	270	TO-220S	31
FS5KM-6	300	5	30	± 30	1.2	1.6	3	270	TO-220FN	31
FS10UM-6	300	10	90	± 30	0.52	0.68	3	570	TO-220	31
FS10VS-6	300	10	90	± 30	0.52	0.68	3	570	TO-220S	31
FS10KM-6	300	10	35	± 30	0.52	0.68	3	570	TO-220FN	31
FS16UM-6	300	16	125	± 30	0.25	0.33	3	1050	TO-220	31
FS16VS-6	300	16	125	± 30	0.25	0.33	3	1050	TO-220S	31
FS16KM-6	300	16	35	± 30	0.25	0.33	3	1050	TO-220FN	31
FS16SM-6	300	16	125	± 30	0.25	0.33	3	1050	TO-3P	32
FS20UM-6	300	20	150	± 30	0.20	0.26	3	1400	TO-220	31
FS20VS-6	300	20	150	± 30	0.20	0.26	3	1400	TO-220S	31
FS20KM-6	300	20	40	± 30	0.20	0.26	3	1400	TO-220FN	31
FS20SM-6	300	20	150	± 30	0.20	0.26	3	1400	TO-3P	32
FS30SM-6	300	30	250	± 30	0.13	0.17	3	2100	TO-3P	32
FS40SM-6	300	40	275	± 30	0.088	0.114	3	2850	TO-3P	32
FS3UM-9	450	3	60	± 30	2.7	3.5	3	300	TO-220	31
FS3VS-9	450	3	60	± 30	2.7	3.5	3	300	TO-220S	31
FS3KM-9	450	3	30	± 30	2.7	3.5	3	300	TO-220FN	31
FS5UM-9	450	5	90	± 30	1.1	1.4	3	600	TO-220	31
FS5VS-9	450	5	90	± 30	1.1	1.4	3	600	TO-220S	31
FS5KM-9	450	5	35	± 30	1.1	1.4	3	600	TO-220FN	31
FS10UM-9	450	10	125	± 30	0.56	0.73	3	1100	TO-220	31
FS10VS-9	450	10	125	± 30	0.56	0.73	3	1100	TO-220S	31
FS10KM-9	450	10	35	± 30	0.56	0.73	3	1100	TO-220FN	31
FS10SM-9	450	10	125	± 30	0.56	0.73	3	1100	TO-3P	32

(Ω) - shows maximum value of on-resistance at $V_{GS} = 10V$

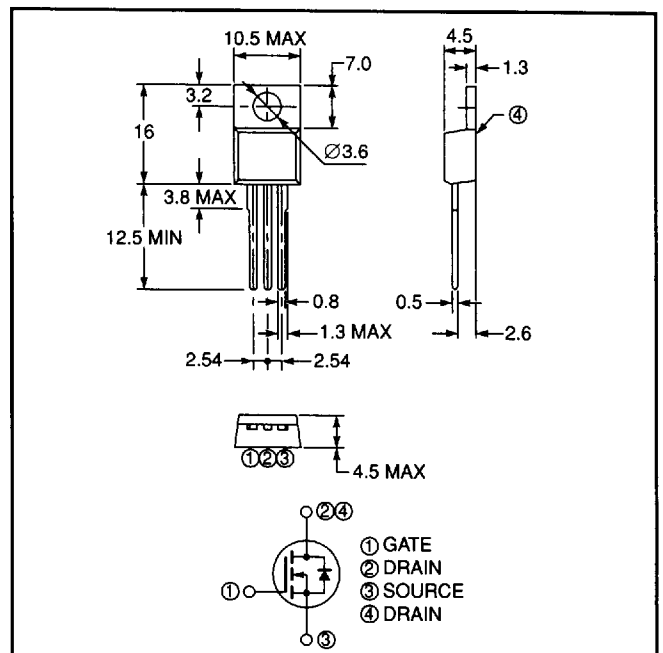
Device Outline Drawings

MP-3



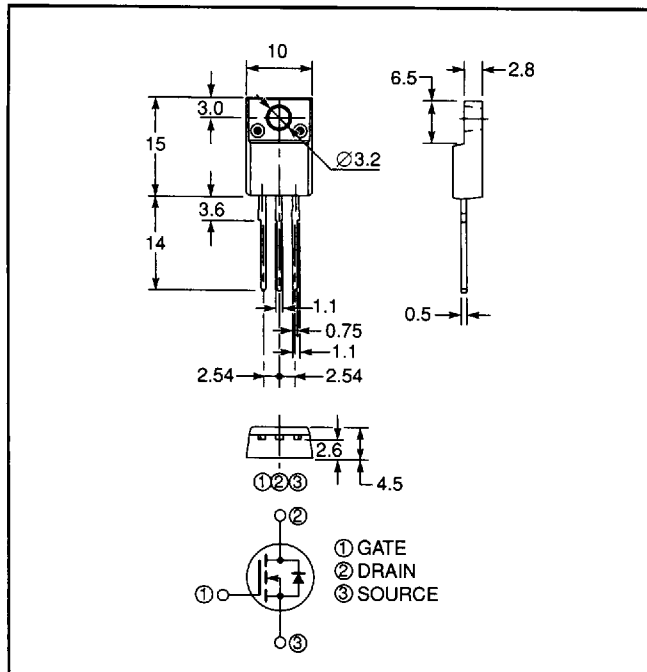
IGBT CT**AS-8
MOSFET FS**AS-8

TO-220



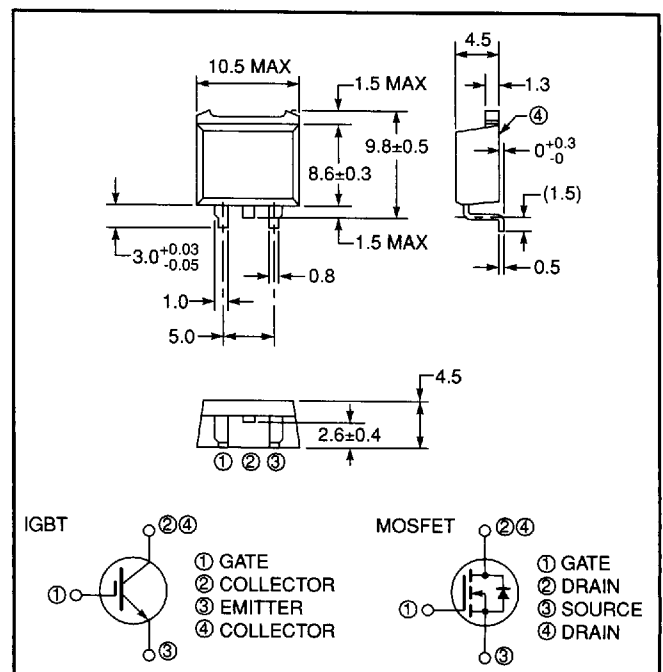
MOSFET FK**UM-**, FS**UM-**

TO-220FN



MOSFET FK**KM-**, FS**KM-**

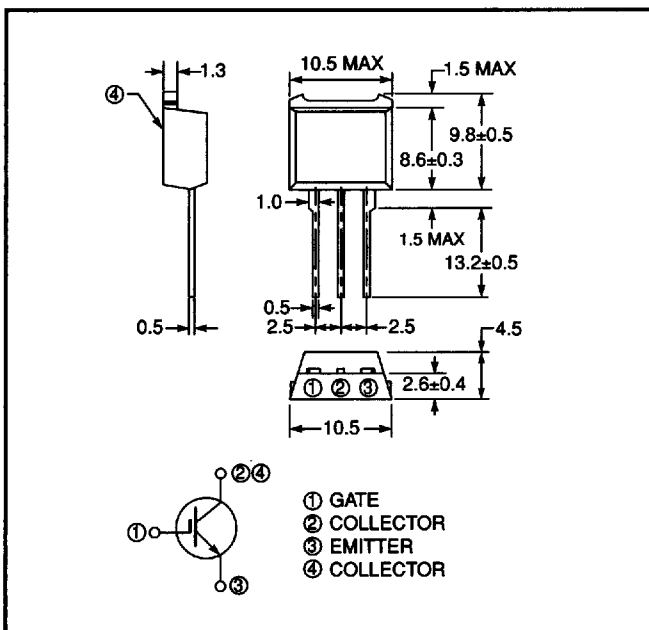
TO-220S



IGBT CT**VS-8
MOSFET FK**VS-**, FS**VS-**

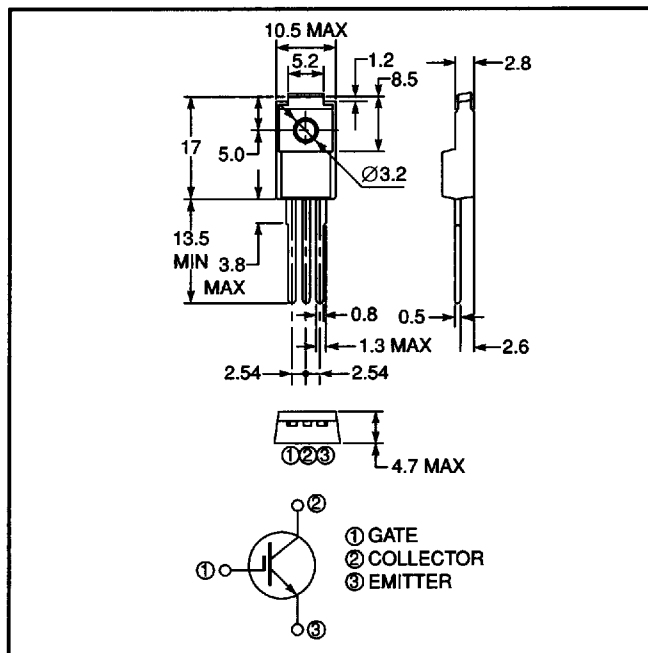
Device Outline Drawings

TO-220C



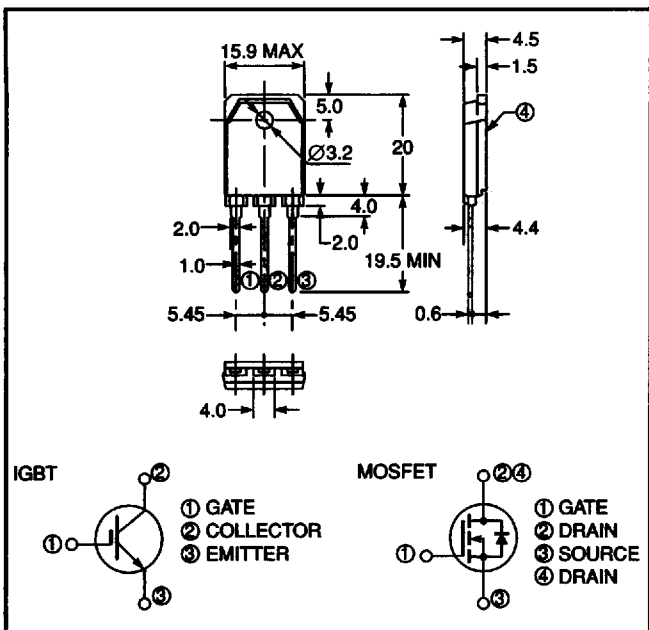
IGBT CT**VM-8

TO-220F



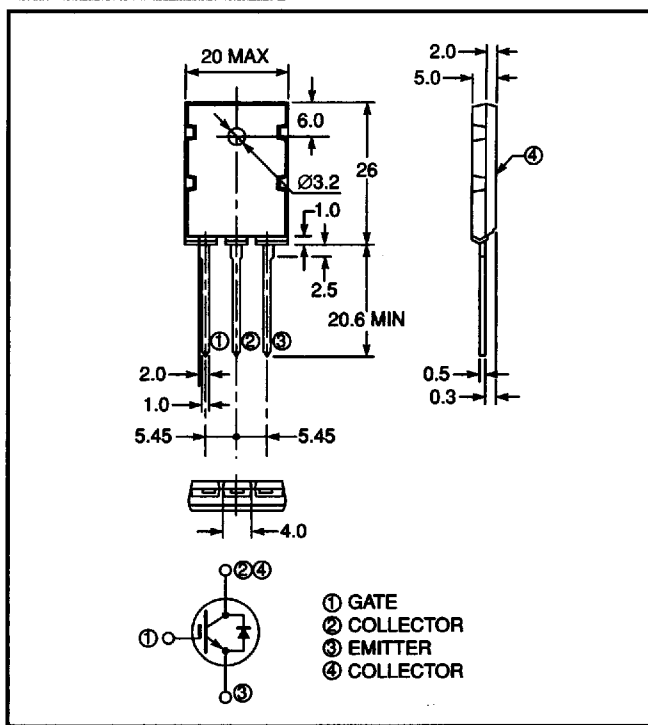
IGBT CT**TM-**

TO-3P



IGBT CT**SM-8
MOSFET FK**SM-*, FS**SM-*

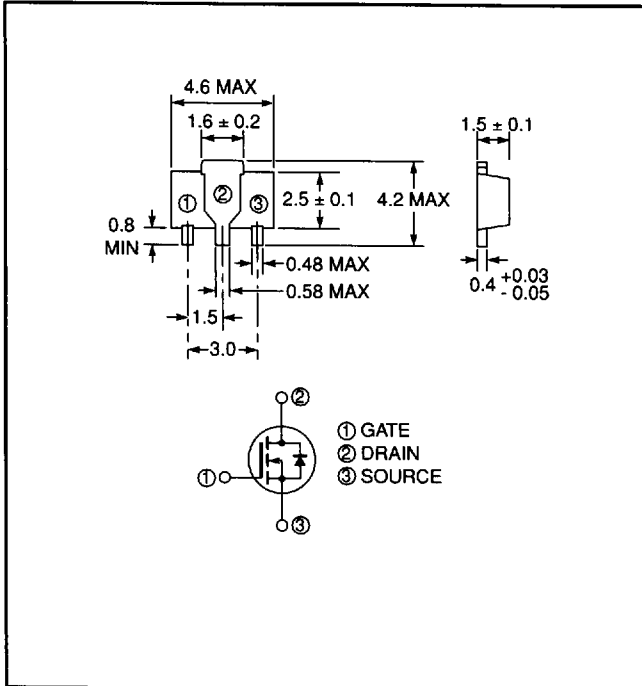
TO-3PL



IGBT CT**AM-*

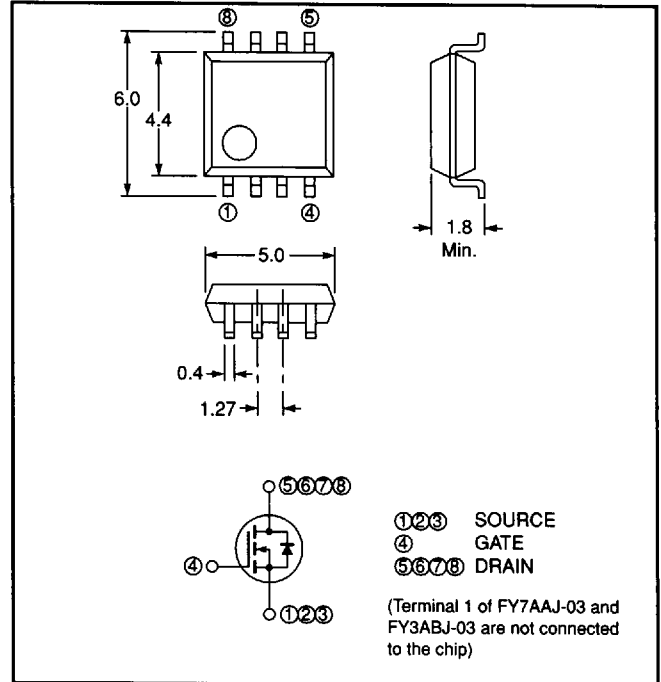
Device Outline Drawings

SOT-89



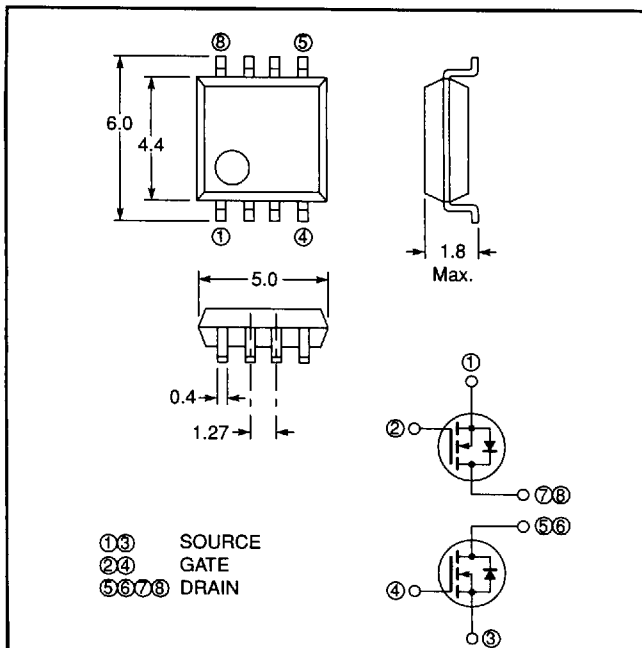
MOSFET FS**, FX**

SOP-8 (Single)



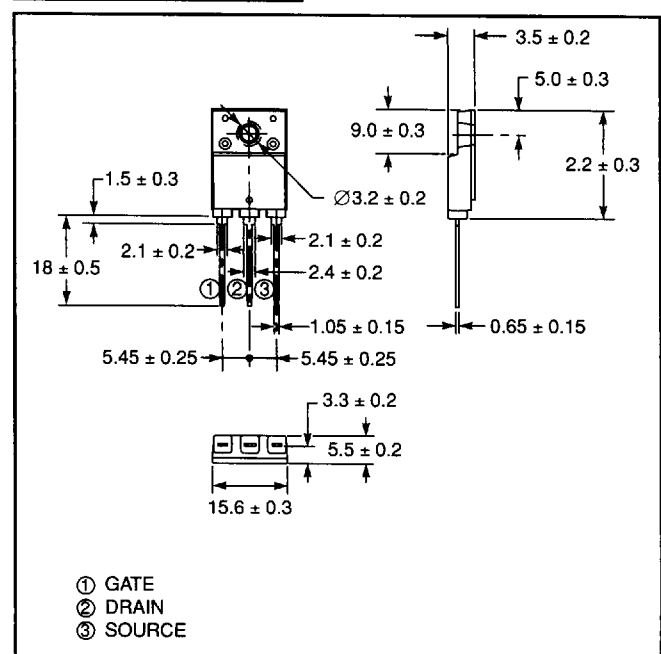
MOSFET FY**

SOP-8 (Dual)



MOSFET FY**

TO-3PF



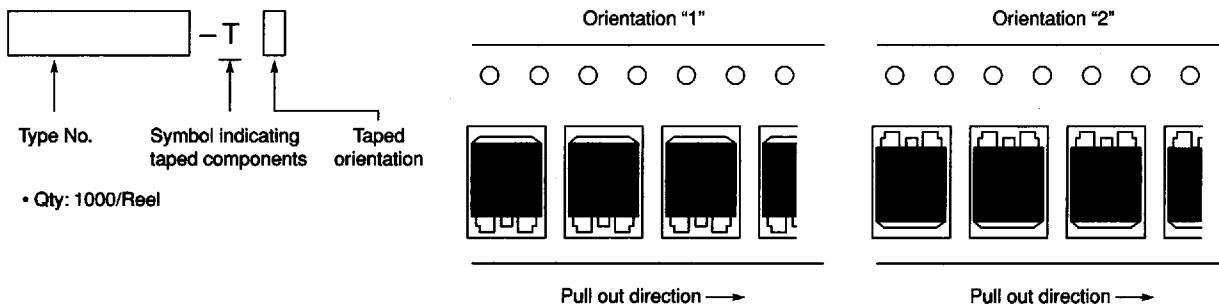
MOSFET FS**RM-**

MOSFET Packing Quantities and Types

Package	Outline Code	Packing	Minimum Quantity per Package
TO-220	UM	Bag	100
TO-220FN	KM	Tube	50
TO-220S	VS	Bag	100
TO-220S	VS	Reel	1000
TO-3P	SM	Bag	20
MP-3	AS	Bag	500
MP-3	AS	Reel	3000
SOP-8	FY	Reel	3000

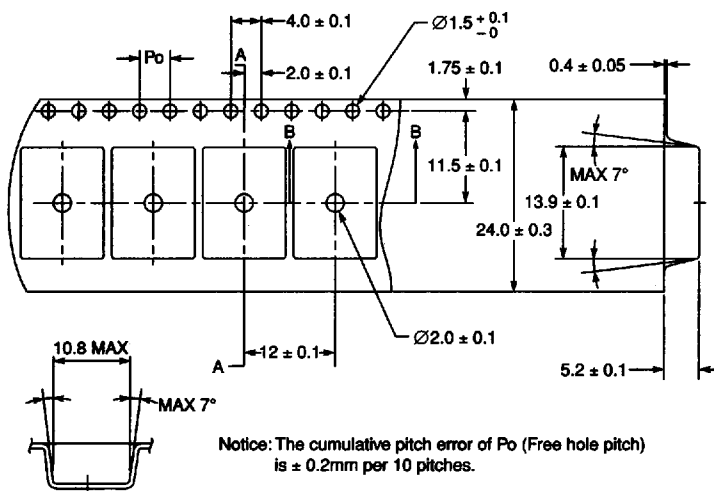
TO-220S Taping

(a) Marking

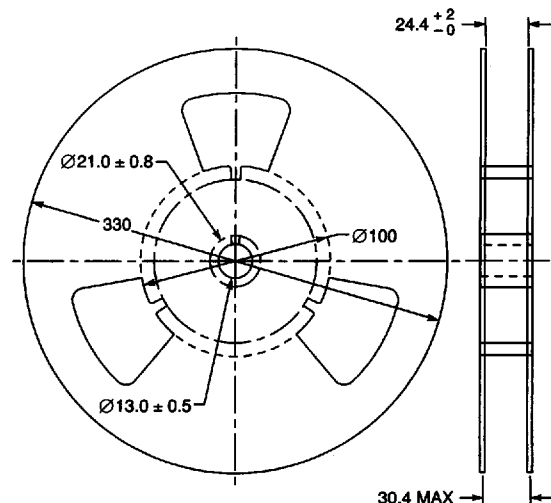


(b) Taping

- **Tape Shape and Dimensions**



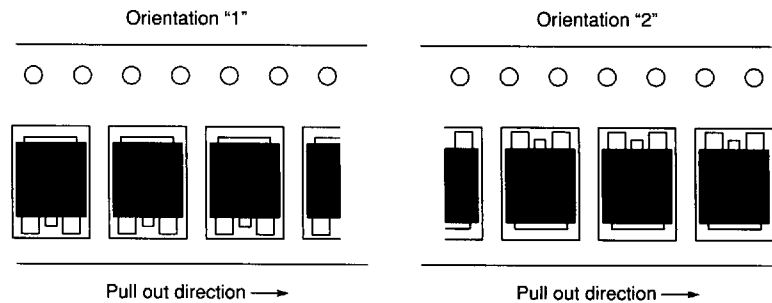
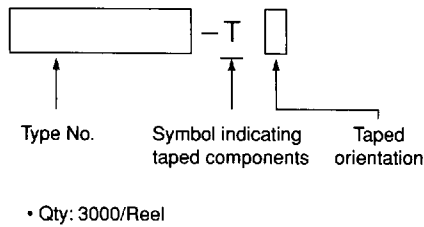
- **Reel Shape and Dimensions**



Packaging Information

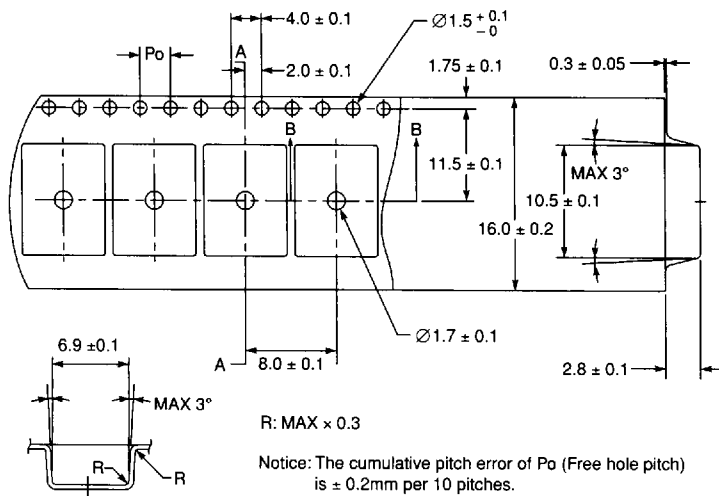
MP-3 Taping

(a) Marking

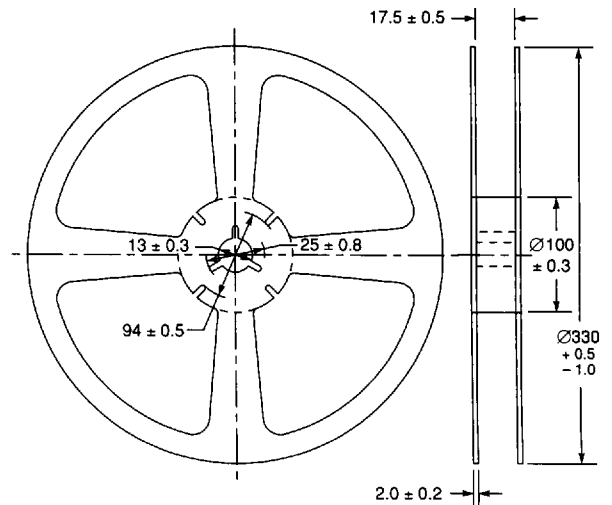


(b) Taping

• Tape Shape and Dimensions

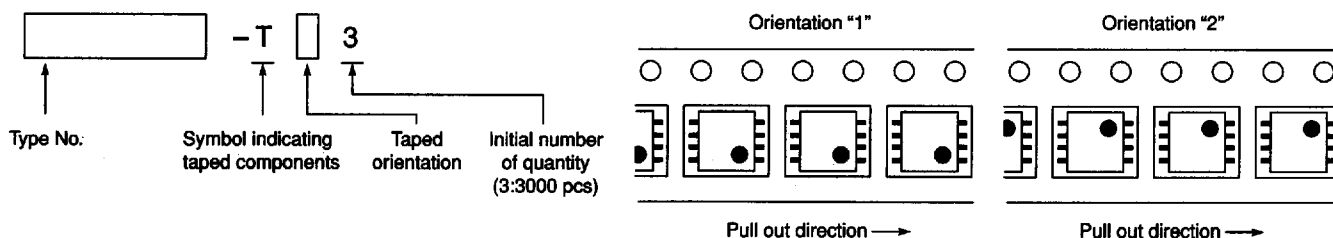


• Reel Shape and Dimensions



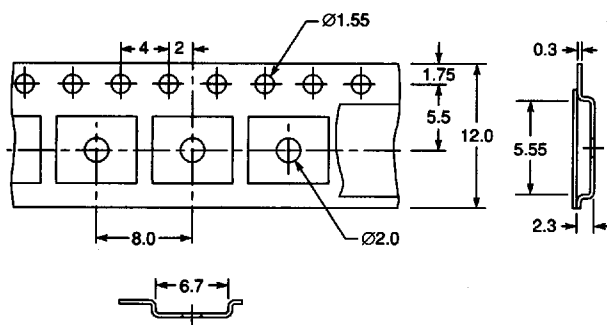
SOP-8 Taping

(a) Marking

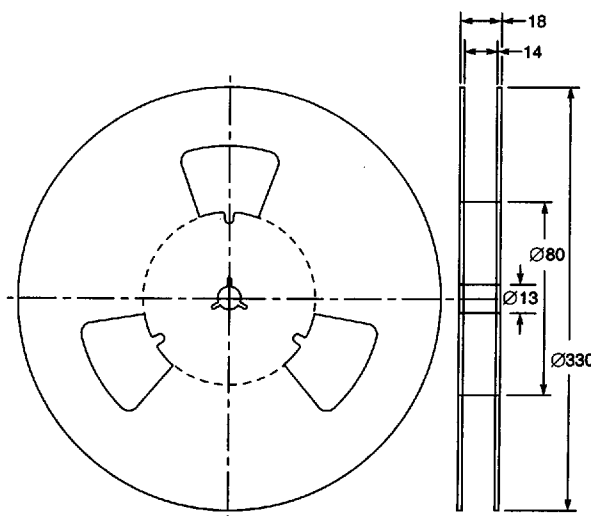


(b) Taping

- **Tape Shape and Dimensions**

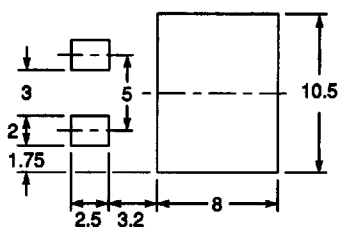


- **Reel Shape and Dimensions**

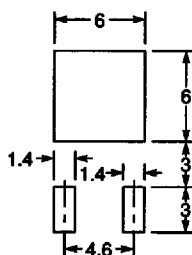


Recommended Mounting Pad

TO-220S Package



MP-3 Package



SOP-8 Package

