

KEC

**Power Transistor
(MJE Series Device)**

Power Transistor (MJE Series)

■ Application

- High Voltage Switch Mode

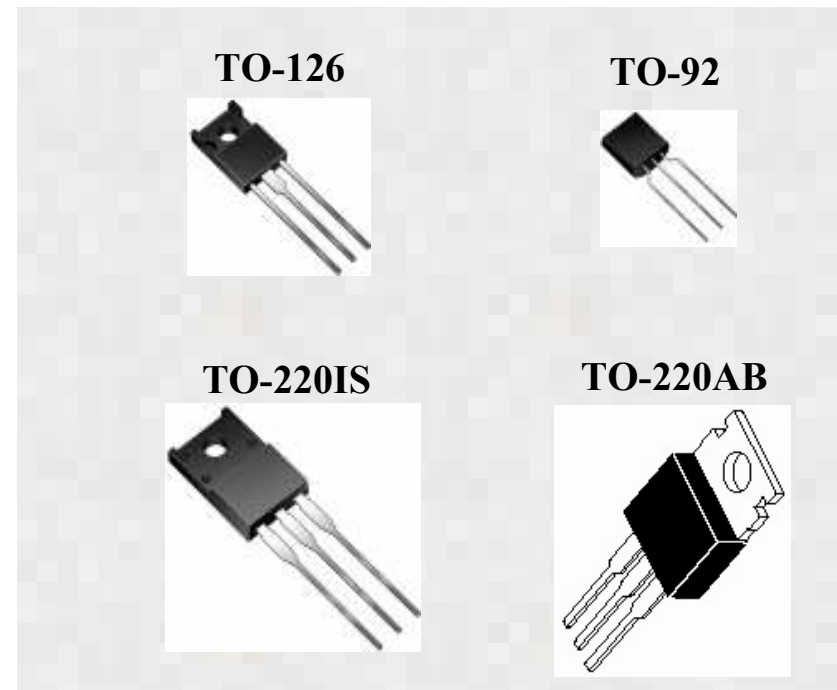
■ Feature

- High Speed Switching
- High Voltage Capability
- Suitable for Electronic Ballast
- Suitable for Switching Regulator and Motor Control

■ PKG Line-up

- TO-92 PKG & TO-126 PKG
 - ☞ Suitable for Compact Set Size (Ballast)
- TO-220IS PKG & TO-220AB PKG
 - ☞ High Power Dissipation Application (With Heat-Sink)

<< MJE Series Device PKG Line-up >>



Target Applications

Compact ballast



Adaptor



ballast

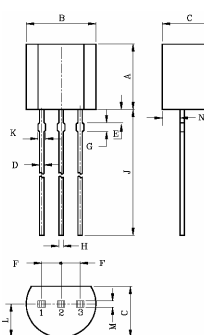
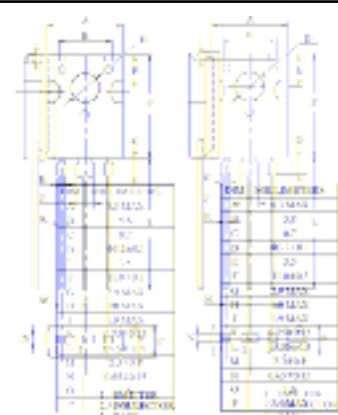
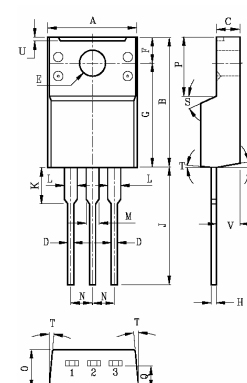
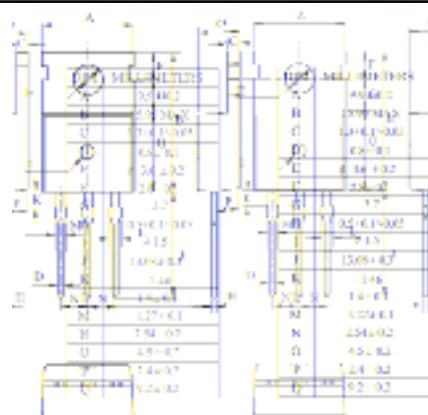


SMPS & DC-DC Converter



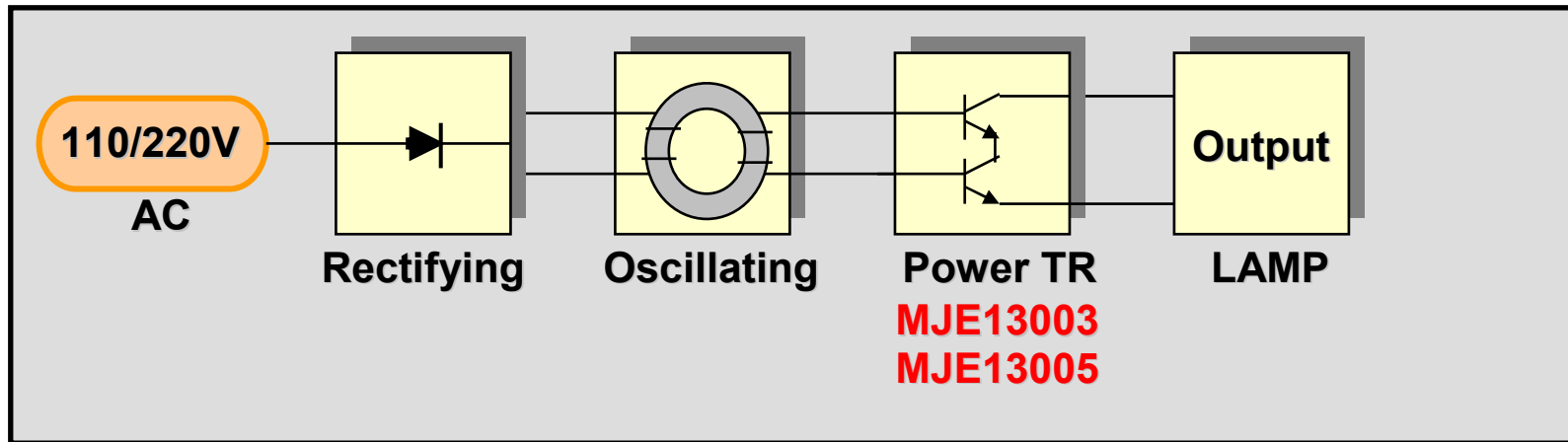
■ Device Line-up & PKG Dimension

Product	Max. Rating		V _{CE(SAT)}	h _{FE}	tstg	P _C	PKG
	V _{CEO} [V]	I _C [A]					
KTC3003	400V	1.5A	Max. 0.5V @ I _B =0.1A, I _C =0.5A	9 ~ 21 @ I _C =0.5A, V _{CE} =2V	4us Max. @ I _B =0.2A, I _C =1A	1.1W @ T _a =25°C	TO-92
MJE13003	400V	1.5A	Max. 0.5V @ I _B =0.1A, I _C =0.5A	9 ~ 21 @ I _C =0.5A, V _{CE} =2V	4us Max. @ I _B =0.2A, I _C =1A	20W @ T _C =25°C	TO-126
MJE13005/F	400V	4A	Max. 0.5V @ I _B =0.2A, I _C =1A	18 ~ 39 @ I _C =1A, V _{CE} =5V	4us Max. @ I _B =0.4A, I _C =2A	75W / 30W @ T _C =25°C	TO-220AB/IS
MJE13007/F	400V	8A	Max. 1V @ I _B =0.4A, I _C =2A	15 ~ 50 @ I _C =2A, V _{CE} =5V	3us Max. @ I _B =1A, I _C =5A	80W / 40W @ T _C =25°C	TO-220AB/IS
MJE13009/F	400V	12A	Max. 1V @ I _B =1A, I _C =5A	8 ~ 28 @ I _C =5A, V _{CE} =5V	3us Max. @ I _B =1.6A, I _C =8A	100W / 50W @ T _C =25°C	TO-220AB/IS
KTC5027/F	800V	3A	Max. 2V @ I _B =0.3A, I _C =1.5A	10 ~ 40 @ I _C =0.2A, V _{CE} =5V	3us Max. @ I _C =2A	50W / 40W @ T _C =25°C	TO-220AB/IS

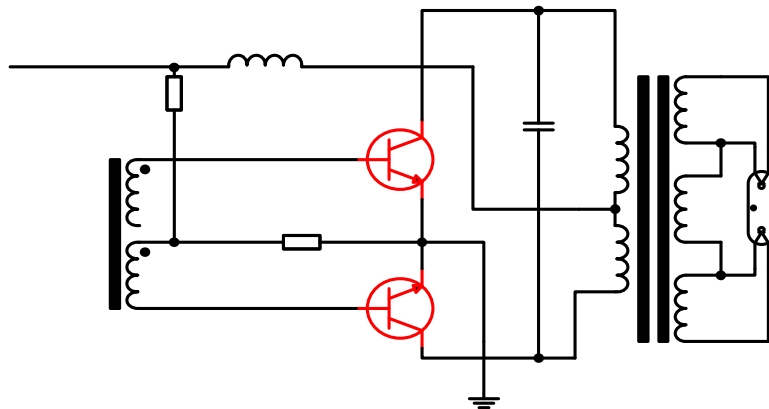
TO-92	TO-126	TO-220IS	TO-220AB																																																																								
 <table border="1" data-bbox="470 1133 604 1340"> <thead> <tr> <th>DIM</th> <th>MILLIMETERS</th> </tr> </thead> <tbody> <tr><td>A</td><td>4.70 MAX</td></tr> <tr><td>B</td><td>4.80 MAX</td></tr> <tr><td>C</td><td>3.70 MAX</td></tr> <tr><td>D</td><td>0.45</td></tr> <tr><td>E</td><td>1.00</td></tr> <tr><td>F</td><td>1.27</td></tr> <tr><td>G</td><td>0.85</td></tr> <tr><td>H</td><td>0.45</td></tr> <tr><td>J</td><td>14.00±0.50</td></tr> <tr><td>K</td><td>0.55 MAX</td></tr> <tr><td>L</td><td>2.30</td></tr> <tr><td>M</td><td>0.45 MAX</td></tr> <tr><td>N</td><td>1.00</td></tr> </tbody> </table>	DIM	MILLIMETERS	A	4.70 MAX	B	4.80 MAX	C	3.70 MAX	D	0.45	E	1.00	F	1.27	G	0.85	H	0.45	J	14.00±0.50	K	0.55 MAX	L	2.30	M	0.45 MAX	N	1.00		 <table border="1" data-bbox="1400 1005 1556 1404"> <thead> <tr> <th>DIM</th> <th>MILLIMETERS</th> </tr> </thead> <tbody> <tr><td>A</td><td>10.30 MAX</td></tr> <tr><td>B</td><td>15.30 MAX</td></tr> <tr><td>C</td><td>2.70±0.30</td></tr> <tr><td>D</td><td>0.85 MAX</td></tr> <tr><td>E</td><td>±0.20±0.20</td></tr> <tr><td>F</td><td>3.00±0.30</td></tr> <tr><td>G</td><td>12.30 MAX</td></tr> <tr><td>H</td><td>0.75 MAX</td></tr> <tr><td>J</td><td>13.50±0.50</td></tr> <tr><td>K</td><td>3.90 MAX</td></tr> <tr><td>L</td><td>1.20</td></tr> <tr><td>M</td><td>1.30</td></tr> <tr><td>N</td><td>2.54</td></tr> <tr><td>O</td><td>4.50±0.20</td></tr> <tr><td>P</td><td>6.80</td></tr> <tr><td>Q</td><td>2.60±0.20</td></tr> <tr><td>R</td><td>10°</td></tr> <tr><td>S</td><td>25°</td></tr> <tr><td>T</td><td>5°</td></tr> <tr><td>U</td><td>0.5</td></tr> <tr><td>V</td><td>2.60±0.15</td></tr> </tbody> </table>	DIM	MILLIMETERS	A	10.30 MAX	B	15.30 MAX	C	2.70±0.30	D	0.85 MAX	E	±0.20±0.20	F	3.00±0.30	G	12.30 MAX	H	0.75 MAX	J	13.50±0.50	K	3.90 MAX	L	1.20	M	1.30	N	2.54	O	4.50±0.20	P	6.80	Q	2.60±0.20	R	10°	S	25°	T	5°	U	0.5	V	2.60±0.15	
DIM	MILLIMETERS																																																																										
A	4.70 MAX																																																																										
B	4.80 MAX																																																																										
C	3.70 MAX																																																																										
D	0.45																																																																										
E	1.00																																																																										
F	1.27																																																																										
G	0.85																																																																										
H	0.45																																																																										
J	14.00±0.50																																																																										
K	0.55 MAX																																																																										
L	2.30																																																																										
M	0.45 MAX																																																																										
N	1.00																																																																										
DIM	MILLIMETERS																																																																										
A	10.30 MAX																																																																										
B	15.30 MAX																																																																										
C	2.70±0.30																																																																										
D	0.85 MAX																																																																										
E	±0.20±0.20																																																																										
F	3.00±0.30																																																																										
G	12.30 MAX																																																																										
H	0.75 MAX																																																																										
J	13.50±0.50																																																																										
K	3.90 MAX																																																																										
L	1.20																																																																										
M	1.30																																																																										
N	2.54																																																																										
O	4.50±0.20																																																																										
P	6.80																																																																										
Q	2.60±0.20																																																																										
R	10°																																																																										
S	25°																																																																										
T	5°																																																																										
U	0.5																																																																										
V	2.60±0.15																																																																										

Suitable Application (Ballast)

Compact Ballast



Ballast Circuit

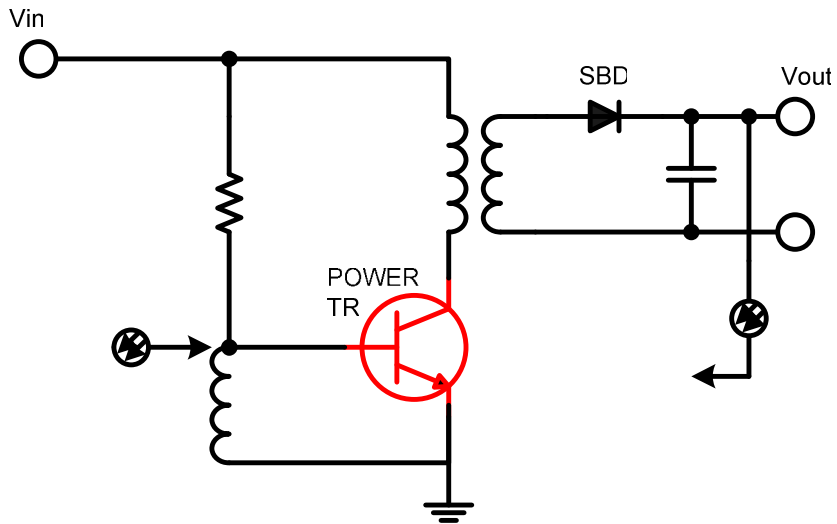


Suitable Device for Ballast

Device	Max. Rating	PKG
MJE13003	400V / 1.5A	TO-126
KTC3003	400V / 1.5A	TO-92
MJE13005/F	400V / 4A	TO-220IS/AB
MJE13007/F	400V / 8A	TO-220IS/AB

Suitable Application (SMPS)

□ **SMPS Circuit**



□ **Suitable Device for DC-DC Converter**

Device	Max. Rating	PKG
MJE13005/F	400V / 4A	TO-220IS/AB
MJE13007/F	400V / 8A	TO-220IS/AB
MJE13009/F	400V / 12A	TO-220IS/AB
KTC5027	800V / 3A	TO-220IS/AB

AC 110V
AC 220V

Cross Reference

Product	Max. Rating	PKG	Cross Reference	Application set
	V_{CEO} [V] / I_C [A]			
KTC3003	400V / 1.5A	TO-92	<ul style="list-style-type: none"> ➤ STBV32(ST-Micro) ➤ FJN13003(FSC) ➤ BUJ100(Philips) 	Compact Ballast
MJE13003	400V / 1.5A	TO-126	<ul style="list-style-type: none"> ➤ FJE3303(FSC) ➤ 2SC3550(Toshiba) ➤ BUX86P(Philips) 	Ballast, SMPS
MJE13005/F	400V / 4A	TO-220AB/IS	<ul style="list-style-type: none"> ➤ KSE13005(FSC) ➤ MJE13005(On-semi) ➤ BUL128(ST-Micro) 	Ballast, SMPS
MJE13007/F	400V / 8A	TO-220AB/IS	<ul style="list-style-type: none"> ➤ FJP13007(FSC) ➤ MJE13007(On-semi) ➤ ST13007D(ST-Micro) 	Ballast, SMPS
MJE13009/F	400V / 12A	TO-220AB/IS	<ul style="list-style-type: none"> ➤ FJP13009(FSC) ➤ MJE13009(On-semi) ➤ BUL654T(ST-Micro) 	Low Cost SMPS, Halogen Lamps
KTC5027/F	800V / 3A	TO-220AB/IS	<ul style="list-style-type: none"> ➤ 2SC3752 (Sanyo) ➤ 2SC5353 (Toshiba) ➤ 2SC3979 (Panasonic) 	SMPS, CTV Monitor

Ballast 업체 정보 사항

거래선명	적용제품	VENDOR	생산량	업체동향
열기사	STD13005, 13003	FKS, ST	1,000K	>. SET 가격 하락으로 인한 채산성 저하로 생산 감소 (SET 가격 : 한국산 US\$ 2.00, 중국산 : US\$ 1.50) >. 13003(T0-126)에서 13005로 전환 생산 추세임 (25₩ 이상급)
두영전자		FKS	400K	
대성전자		FKS	400K	
정수조명		FKS, ST	500K	
필룩스		ST, PHI	250K	
금호전기		ST, 기타	200K	

▲ 그 이외 생산 제조 업체

- 오스람 코리아, (주)화승전기, (주)성일, (주)선광, 아림산업, 삼성전기 등